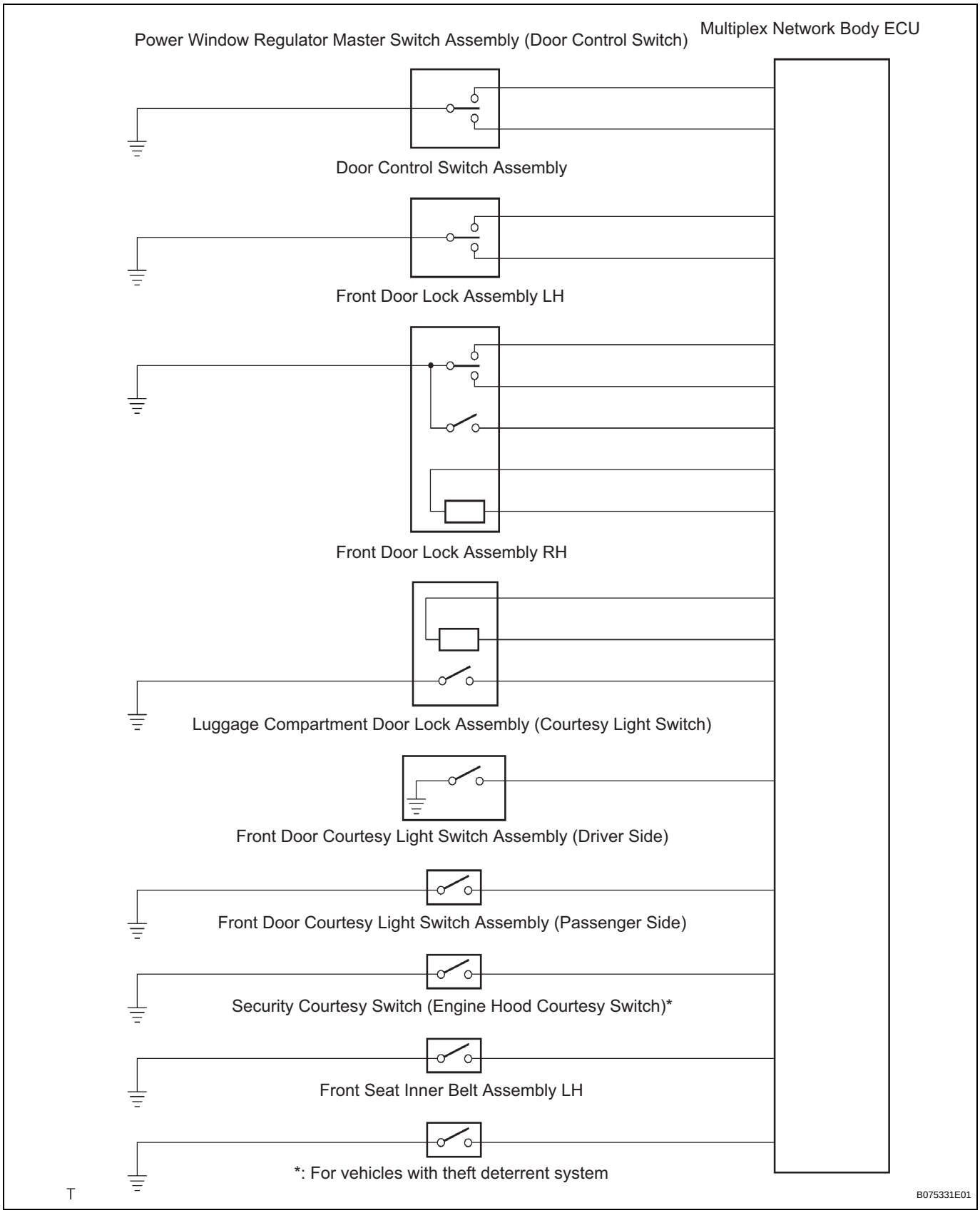
SYSTEM DIAGRAM



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SYSTEM DESCRIPTION

1. POWER DOOR LOCK CONTROL SYSTEM DESCRIPTION

(a) The power door lock system locks/unlocks all the doors simultaneously.
The master switch and the door control switch (on the passenger side door) send lock/unlock request signals to the door lock control relay. Then, the door lock control relay sends these requests to the lock motors in each door to lock/unlock all the doors simultaneously.
Operating the driver side and passenger side door locks using a key sends lock/unlock request signals to the door lock control relay. The driver side door key-linked lock function has an optional unlock method called the "2-step unlock function". Please refer to the chart below in step (b) for details on this function.

(b) The power door lock control system has the following functions:

Function	Description
Key-linked lock and unlock function	This function locks/unlocks all doors simultaneously when driver side door key cylinder (linked with driver side door lock) is turned with key.
Key lock-in prevention function	When key is inserted into ignition key cylinder and door lock operation is performed with driver side door open, all doors will be unlocked.
Door control switch* unlock prohibition function	Performing door lock operation with transmitter or key will prohibit the unlock operation by door lock control switch.
2-step unlock function	Driver side door can be unlocked by turning key cylinder once; remaining doors can be unlocked by turning key cylinder second time.
Shift-linked automatic door lock	When conditions listed below are met in this order, this function causes all doors to automatically lock. • Ignition switch is turned from OFF or ACC to ON. • All doors are closed. • Shift lever is moved out of P position. • Any door is unlocked.
Shift-linked automatic door unlock	When ignition switch is ON, moving shift lever to P position from any position other than P position will automatically unlock all doors.
Driver door-linked automatic door unlock	When driver side door is closed, turning ignition switch from ON to OFF and opening driver side door within 10 seconds will automatically unlock all doors.

*: Master switch and door control switch (passenger side)

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:
Use this procedure to troubleshoot the power door lock control system.

1 VEHICLE BROUGHT TO WORKSHOP

2 CUSTOMER PROBLEM ANALYSIS CHECK AND SYMPTOM CHECK

3 CHECK FOR DTCS

HINT:
See page DL-11
(a) Check for DTCs and note any codes that are output.
(b) Delete the DTC.
(c) Recheck for DTCs. Try to prompt the DTC by simulating the original activity that the DTC suggests.
  (1) If the DTC does not reoccur, proceed to A.
  (2) If the DTC reoccurs, proceed to B.

B → **Go to step 5**

A

4 PROBLEM SYMPTOMS TABLE

HINT:
See page DL-7
(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 6**

A

5 OVERALL ANALYSIS AND TROUBLESHOOTING

(a) On-vehicle inspection (See page DL-12)
(b) Inspection
(c) Terminals of ECU (See page DL-8)

6	**ADJUST, REPAIR OR REPLACE**

7	**CONFIRMATION TEST**

END

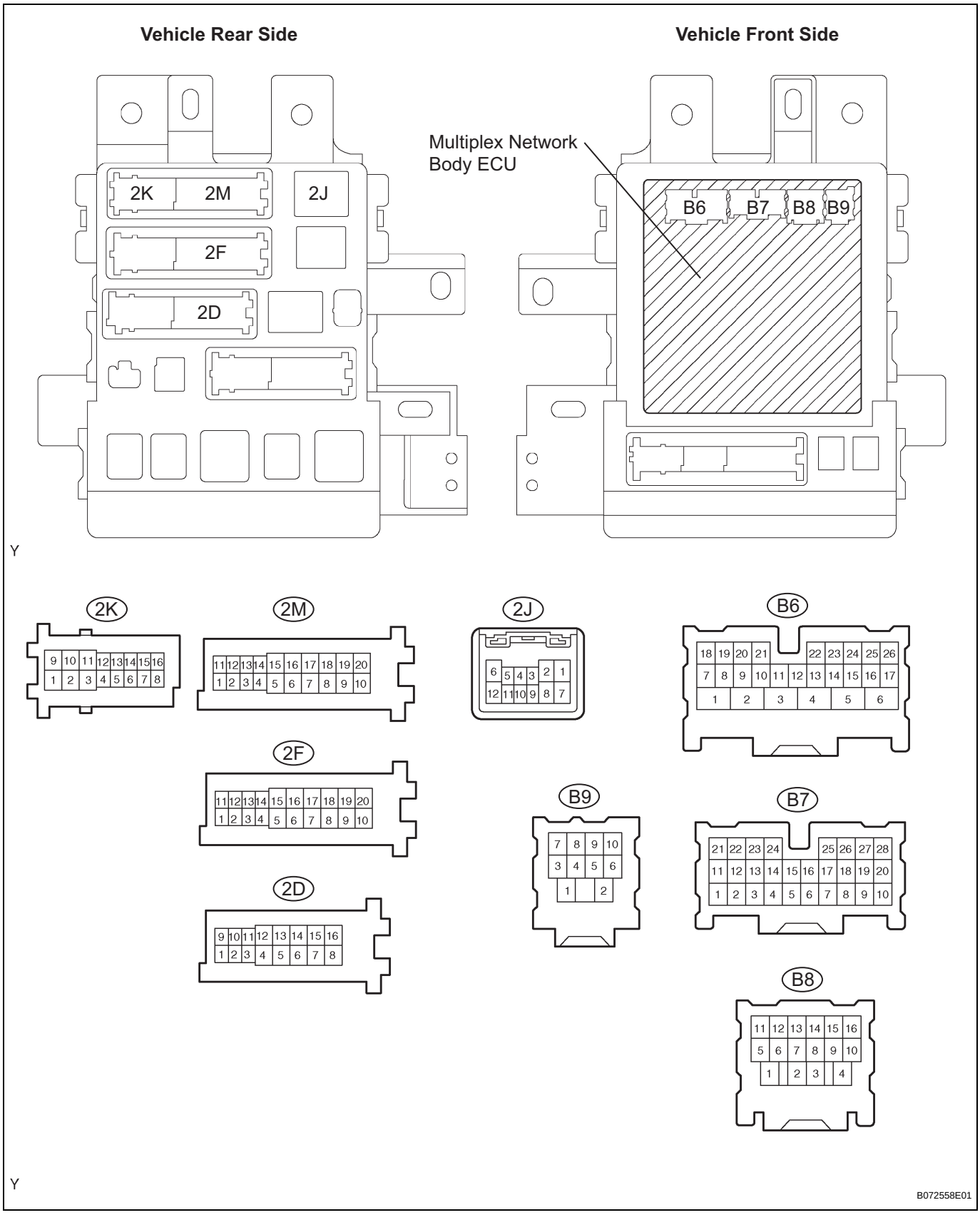
PROBLEM SYMPTOMS TABLE

POWER DOOR LOCK CONTROL SYSTEM

Symptom	Suspected area	See page
All doors cannot be locked/unlocked simultaneously	1. Refer to troubleshooting	DL-15
	2. DOOR1 fuse	-
	3. D.C.C fuse	-
	4. ECU-B fuse	-
	5. Power window regulator master switch assembly	-
	6. Front door lock assembly LH	-
	7. Door control switch assembly	-
	8. Instrument panel J/B assembly (Multiplex network body ECU)	-
	9. Wire harness	-
Key lock-in prevention function does not work properly (manual operation and key-linked lock are available)	1. Refer to troubleshooting	DL-27
	2. Unlock warning switch assembly	-
	3. Front door courtesy light switch assembly (driver side)	-
	4. Instrument panel J/B assembly (Multiplex network body ECU)	-
	5. Wire harness	-

TERMINALS OF ECU

1. CHECK INSTRUMENT PANEL J/B ASSEMBLY (MULTIPLEX NETWORK BODY ECU)



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(a) Disconnect the 2D, 2F, 2J, 2K and 2M J/B connectors.
(b) Disconnect the B6, B7, B8 and B9 ECU connectors.
(c) Measure the voltage and resistance of the wire harness side connectors.

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
ALTB (2D-16) - Body ground	L-W - Body ground	+B (power system, generator system) power supply	Always	10 to 14 V
BECU (2F-1) - Body ground	W-R - Body ground	+B (BECU) power supply	Always	10 to 14 V
GND1 (2F-10) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω
GND2 (2M-9) - Body ground	W-B*1 - Body ground	Ground	Always	Below 1 Ω
GND2 (2M-9) - Body ground	BR*2 - Body ground	Ground	Always	Below 1 Ω
KSW (B6-21) - Body ground	L - Body ground	Key unlock warning switch input	1: No key in ignition key cylinder → 2: Key inserted	1: 10 kΩor higher → 2: Below 1 Ω
DBKL (B8-9) - Body ground	BR-Y*1 - Body ground	Driver side seat belt buckle switch input	Driver side seat belt 1: Not fastened → 2: Key inserted	1: 10 kΩ or higher → 2: Below 1 Ω
DBKL (B8-9) - Body ground	G-Y*2 - Body ground	Driver side seat belt buckle switch input	Driver side seat belt 1: Not fastened → 2: Key inserted	1: 10 kΩ or higher → 2: Below 1 Ω
HCTY*3 (B9-10) - Body ground	B - Body ground	Engine hood courtesy switch input	Engine hood 1: Closed → 2: Open	1: 10 kΩ or higher → 2: Below 1 Ω
DCTY (B8-14) - Body ground	R-G - Body ground	Driver side courtesy switch input	Driver side door 1: Closed → 2: Open	1: 10 kΩ or higher → 2: Below 1 Ω
PCTY (B7-23) - Body ground	R-G - Body ground	Passenger side courtesy switch input	Passenger side door 1: Closed → 2: Open	1: 10 kΩ or higher → 2: Below 1 Ω
LGCY (B7-25) - Body ground	G-R*1 - Body ground	Luggage compartment door courtesy switch input	Luggage compartment door 1: Closed → 2: Open	1: 10 kΩ or higher → 2: Below 1 Ω
LGCY (B7-25) - Body ground	R*2 - Body ground	Luggage compartment door courtesy switch input	Luggage compartment door 1: Closed → 2: Open	1: 10 kΩ or higher → 2: Below 1 Ω
L1 (2K-15) - Body ground L1 (2J-3) - Body ground	R-Y*1 - Body ground	Door control switch (master switch and passenger side switch) lock input	Door control switch (master switch or passenger side switch) 1: OFF → 2: LOCK	1: 10 kΩ or higher → 2: Below 1 Ω
L1 (2K-15) - Body ground L1 (2J-3) - Body ground	LG*2 - Body ground	Door control switch (master switch and passenger side switch) lock input	Door control switch (master switch or passenger side switch) 1: OFF → 2: LOCK	1: 10 kΩ or higher → 2: Below 1 Ω
UL1 (2K-12) - Body ground UL1 (2J-4) - Body ground	G-R - Body ground	Door control switch (master switch and passenger side switch) unlock input	Door control switch (master switch or passenger side switch) 1: OFF → 2: UNLOCK	1: 10 kΩ or higher → 2: Below 1 Ω
LSWD (B8-7) - Body ground	BR-R*1 - Body ground	Driver side door lock position switch input	Driver side door 1: Unlocked → 2: Locked	1: 10 kΩ or higher → 2: Below 1 Ω
LSWD (B8-7) - Body ground	LG-R*2 - Body ground	Driver side door lock position switch input	Driver side door 1: Unlocked → 2: Locked	1: 10 kΩ or higher → 2: Below 1 Ω

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
LSWP (B7-27) - Body ground	Y - Body ground	Passenger side door lock position switch input	Passenger side door 1: Unlocked → 2: Locked	1: 10 kΩ or higher → 2: Below 1 Ω
L2 (2K-16) - Body ground	LG*1 - Body ground	Driver side door key-linked door lock input	Driver side door key cylinder 1: OFF → 2: LOCK	1: 10 kΩ or higher → 2: Below 1 Ω
L2 (2K-16) - Body ground	L-Y*2 - Body ground	Driver side door key-linked door lock input	Driver side door key cylinder 1: OFF → 2: LOCK	1: 10 kΩ or higher → 2: Below 1 Ω
UL3 (B8-8) - Body ground	L - Body ground	Driver side door key-linked door unlock input	Driver side door key cylinder 1: OFF → 2: UNLOCK	1: 10 kΩ or higher → 2: Below 1 Ω

*1: Coupe

*2: Convertible

*3: Coupe, convertible w/ VSC

If the result is not as specified, there may be a malfunction on the wire harness side.

(d) Reconnect the 2D, 2F, 2J, 2K and 2M J/B connectors.

(e) Reconnect the B6, B7, B8 and B9 ECU connectors.

(f) Measure the voltage of the connectors.

Voltage:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
ACT+ (2K-2) - Body ground ACT+ (2F-5)*1 - Body ground	L-Y*1 - Body ground	Door lock motor LOCK drive output (driver and passenger side doors)	Door control switch (master switch or passenger side switch) or driver side door key cylinder 1: OFF → 2: LOCK → 3: OFF	1: Below 1 V → 2: 10 to 14 V → 3: Below 1 V
ACT+ (2K-2) - Body ground ACT+ (2J-1)*2 - Body ground	L-R*2 - Body ground	Door lock motor LOCK drive output (driver and passenger side doors)	Door control switch (master switch or passenger side switch) or driver side door key cylinder 1: OFF → 2: LOCK → 3: OFF	1: Below 1 V → 2: 10 to 14 V → 3: Below 1 V
ACTD (B8-4) - Body ground	L-B - Body ground	Door lock motor UNLOCK drive output (driver side door)	Door control switch (master switch or passenger side switch) or driver side door key cylinder 1: OFF → 2: LOCK → 3: OFF	1: Below 1 V → 2: 10 to 14 V → 3: Below 1 V
ACT- (2J-2) - Body ground	L-B - Body ground	Door lock motor UNLOCK drive output (passenger side door)	Door control switch (master switch or passenger side switch) or driver side door key cylinder 1: OFF → 2: LOCK → 3: OFF	1: Below 1 V → 2: 10 to 14 V → 3: Below 1 V
TR+ (B6-1) - Body ground	W-L - Body ground	Luggage compartment door lock motor OPEN drive output	Transmitter switch (luggage compartment door) 1: OFF → 2: ON → 3: OFF	1: Below 1 V → 2: 10 to 14 V → 3: Below 1 V

*1: Coupe

*2: Convertible

If the result is not as specified, the ECU may have a malfunction.

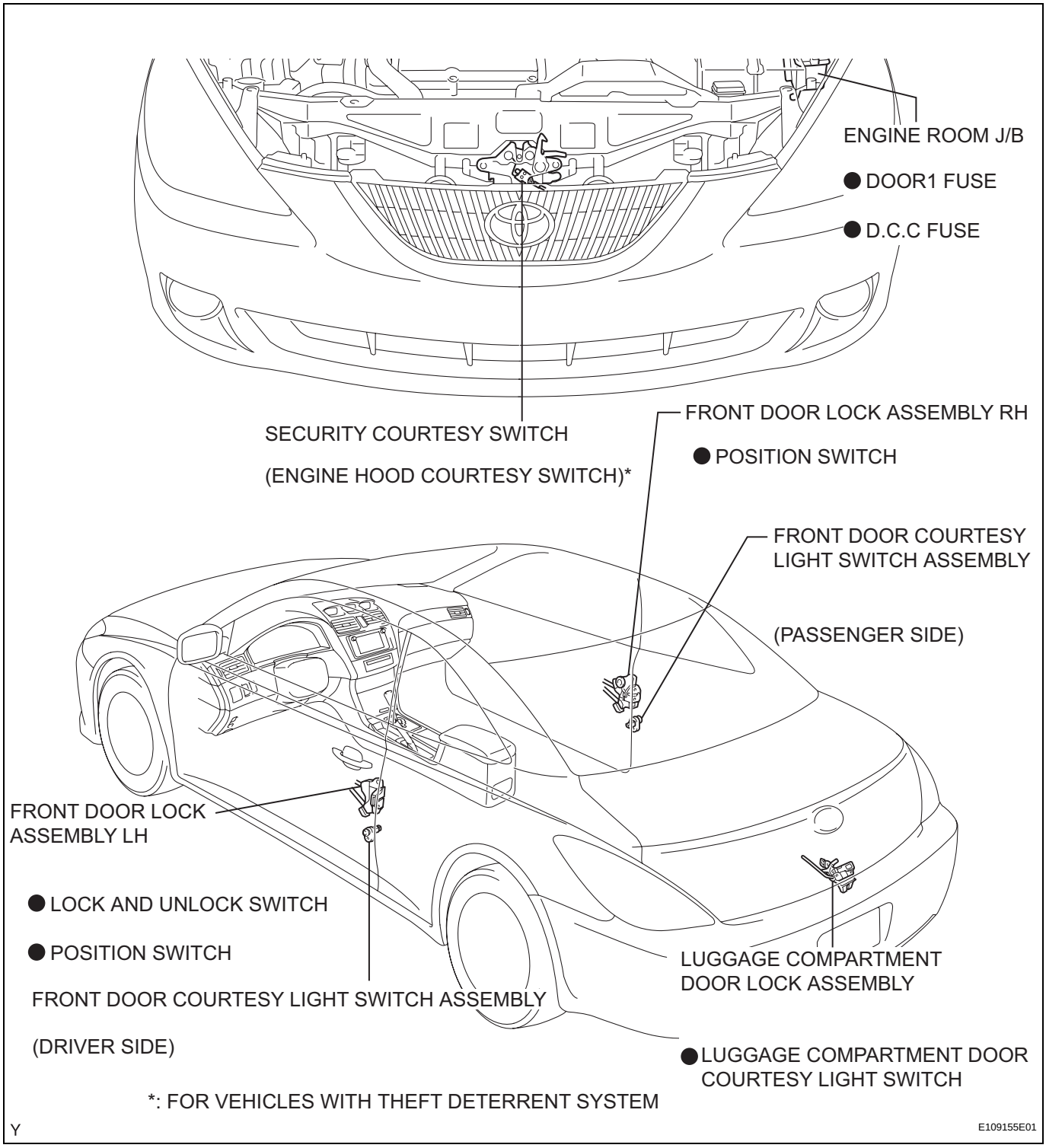
POWER DOOR LOCK CONTROL SYSTEM

PRECAUTION

NOTICE:
When disconnecting the negative (-) battery terminal, initialize the following system(s) after the terminal is reconnected.

System Name	See Procedure
Power Window Control System (Coupe)	WS-6
Sliding Roof System	RF-4

PARTS LOCATION



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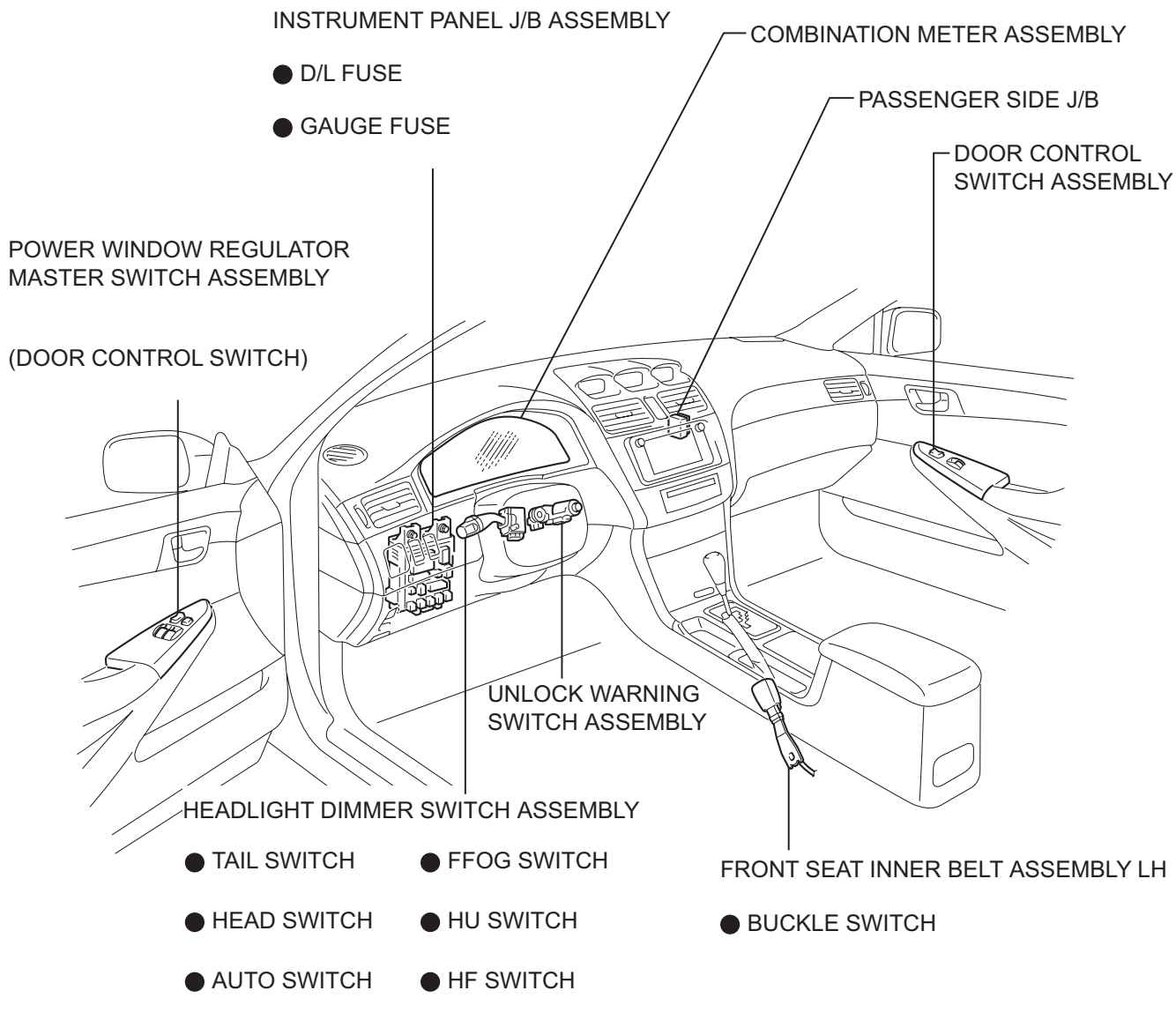

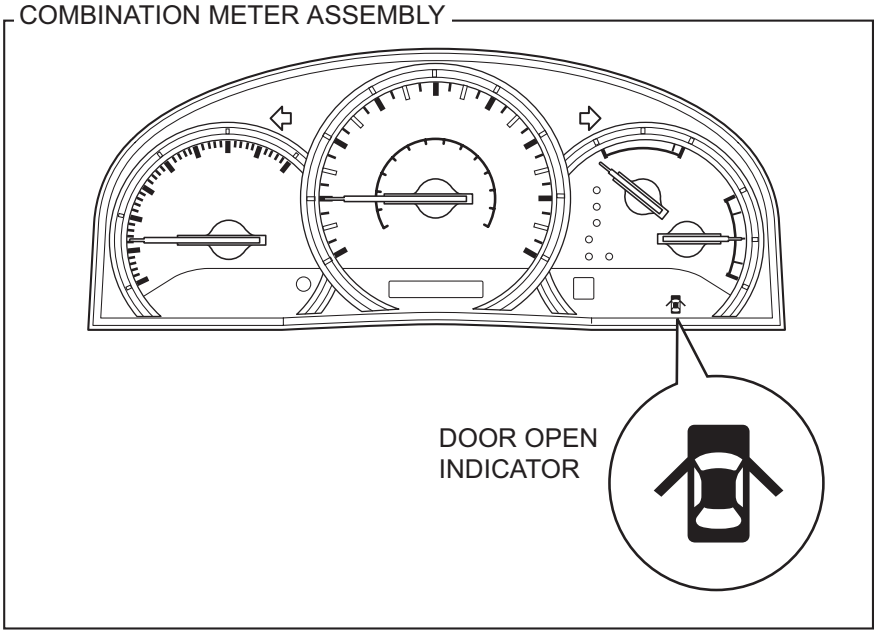

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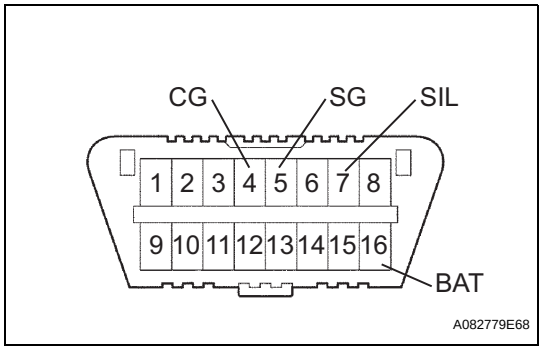
DIAGNOSIS SYSTEM

1. DESCRIPTION

(a) Power door lock control system data and the DTCs can be read in the DLC3 of the vehicle. When the system seems to be malfunctioning, use the intelligent tester to check for malfunctions and perform repairs.

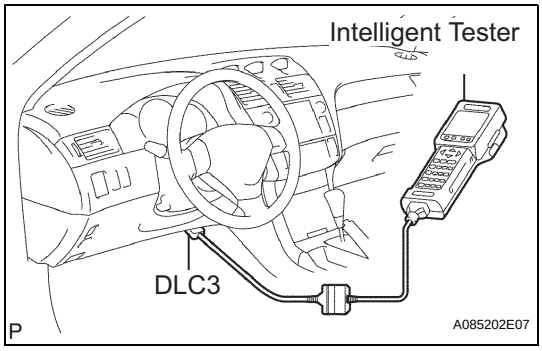
2. CHECK DLC3



(a) The vehicle uses ISO 9141-2 communication protocol. The terminal arrangement of the DLC3 complies with SAE J1962 and matches the ISO 9141-2 format.

Symbols (Terminals No.)	Terminal Description	Condition	Specified Condition
SIL (7) - SG (5)	Bus "+" line	During transmission	Pulse generation
CG (4) - Body ground	Chassis ground	Always	Below 1 Ω
SG (5) - Body ground	Signal ground	Always	Below 1 Ω
BAT (16) - Body ground	Battery positive	Always	11 to 14 V

If the result is not as specified, the DLC3 may have a malfunction. Repair or replace the harness and connector.



(b) Connect the cable of the intelligent tester to the DLC3, turn the ignition switch ON and attempt to use the intelligent tester. If the screen displays the message UNABLE TO CONNECT TO VEHICLE, there is a problem either with the vehicle or with the tester.

- If communication is normal when the tester is connected to another vehicle, inspect the DLC3 of the original vehicle.
- If communication is still impossible when the tester is connected to another vehicle, the problem is probably in the tester itself. Consult the Service Department listed in the tester's instruction manual.

3. INSPECT BATTERY VOLTAGE

Voltage:

11 to 14 V

If the voltage is below 11 V, replace the battery before proceeding.

DL

DTC CHECK / CLEAR

1. CHECK OUTPUT OF DTC BY DOOR OPEN INDICATOR

(a) Inspect the battery positive voltage.
Voltage:
11 to 14 V (when engine is stopped)

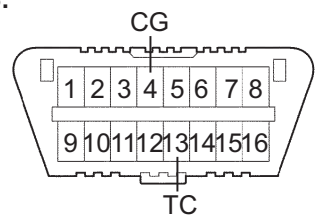
(b) Check DTC outputs.

(1) Check that the door open indicator turns on when one of the doors is opened.
HINT:
If the indicator does not turn on, the problem may be among the following: a defective door open indicator LED, a short circuit in the wire harness, a defective courtesy light switch contact or a defective multiplex network body ECU.

(2) Using SST (diagnosis check wire No.2), short-circuit terminals TC (13) and CG (4) of the DLC3.
SST 09843-18040
NOTICE:
Do not short-circuit any other terminals.

(3) Turn the ignition switch ON and observe how many times the door open indicator flashes.
HINT:
When 2 or more codes are output simultaneously, the codes will be displayed in numerical order.

DLC3:



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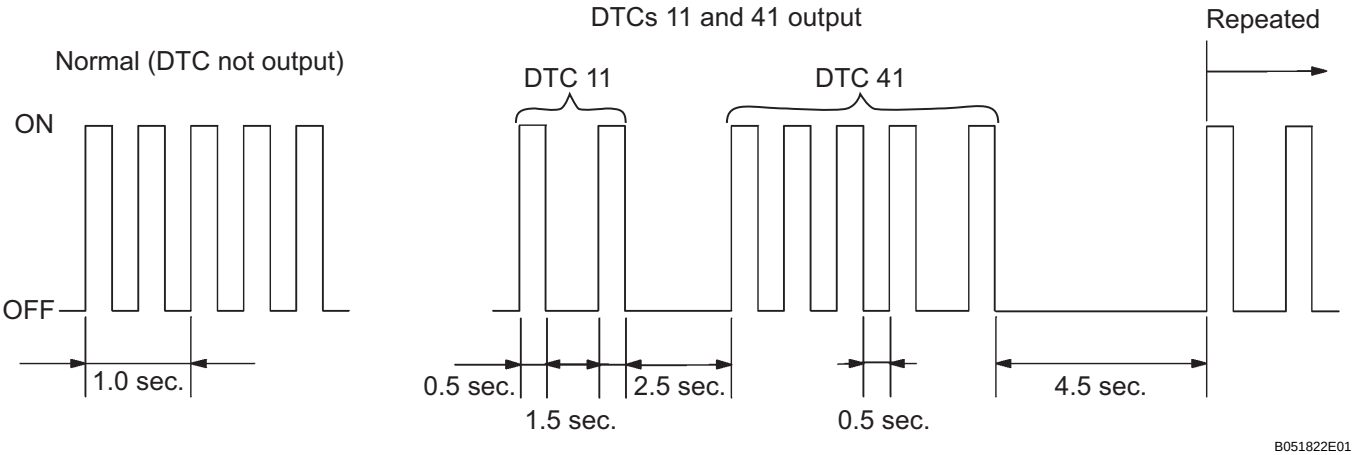
Example:



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DL

ON-VEHICLE INSPECTION

1. CHECK ELECTRICAL DOOR LOCK OPERATION

(a) Check the basic function.

(1) The door control switch (manual operation): 1) pushing LOCK locks all the doors and 2) pushing UNLOCK unlocks all the doors.

(2) The door key cylinder lock function: turning the driver or passenger side door key cylinder to LOCK locks all the doors.

(3) The door key cylinder unlock function: 1) turning the driver or passenger side door key cylinder to UNLOCK once unlocks only the driver side door, and 2) turning it to UNLOCK again within 3 seconds unlocks all the doors (2-step unlock function).

(b) Check the key lock-in prevention function.

NOTICE:

To prevent the key from being locked in the vehicle, the following inspection should be made with the driver side door window open.

(1) Have the key inserted into the ignition key cylinder.

(2) With the driver side door open, turn the driver side door lock knob to LOCK and check that all the doors unlock immediately.

(3) With the driver side door open, push LOCK on the door control switch (manual operation) and check that all the doors unlock immediately.

(4) With the driver side door open, turn the driver side door lock knob to LOCK, hold it for 2 seconds or more and then close the driver side door. Check that all the doors unlock.

(c) Check the security function.

(1) Close all the doors and leave the driver side door window open so that the door control switch can be operated from outside the vehicle.

(2) Pull out the key, open the driver side door and then close and lock the door without using the key. Check that pushing UNLOCK on the door control switch (manual operation) from outside the vehicle does not unlock the doors.

(3) Pull out the key, close and lock the driver side door by key operation. Check that pushing UNLOCK on the door control switch (manual operation) from outside the vehicle does not unlock the doors.

(4) Pull out the key, close the driver side door and lock the door by wireless door lock operation. Check that pushing UNLOCK on the door control switch (manual operation) from outside the vehicle does not unlock the doors.
HINT:
Check that the security function is canceled when any of the following conditions is met:
- The ignition switch is turned ON.
- The driver side door is unlocked using the key.
- UNLOCK on the door control switch (manual operation) is pushed after the door control knob is turned to UNLOCK manually.
- The doors are unlocked with wireless operation.

(d) Check the illumination function.
(1) Set the room light switch to the DOOR position.
(2) With all doors locked, check that all the doors unlock when the driver side door lock cylinder is turned to UNLOCK using the key. At the same time, the room light should turn ON.
(3) Check that the room light turns off in approximately 15 seconds if the doors have not been opened.

(e) Check the automatic locking function interlocked with the shift lever.
(1) With all the doors closed, the engine started and the shift lever in the P position, check that moving the shift lever to any other position automatically locks all unlocked doors.
(2) If, after the doors automatically lock, one or more doors are once again unlocked, check that all unlocked doors automatically lock once again. This is known as the retry function. The retry function is cancelled when any of the following conditions is met:
- All the doors are locked.
- Any door is opened.
- The shift lever is moved into the P position.
- The doors are locked or unlocked by the user.
- The ignition switch is turned OFF.
- The engine is stopped.

(f) Check the automatic unlocking function interlocked with the shift lever.
(1) With the ignition switch ON, moving the shift lever to the P position from any other position will automatically unlock all the doors.

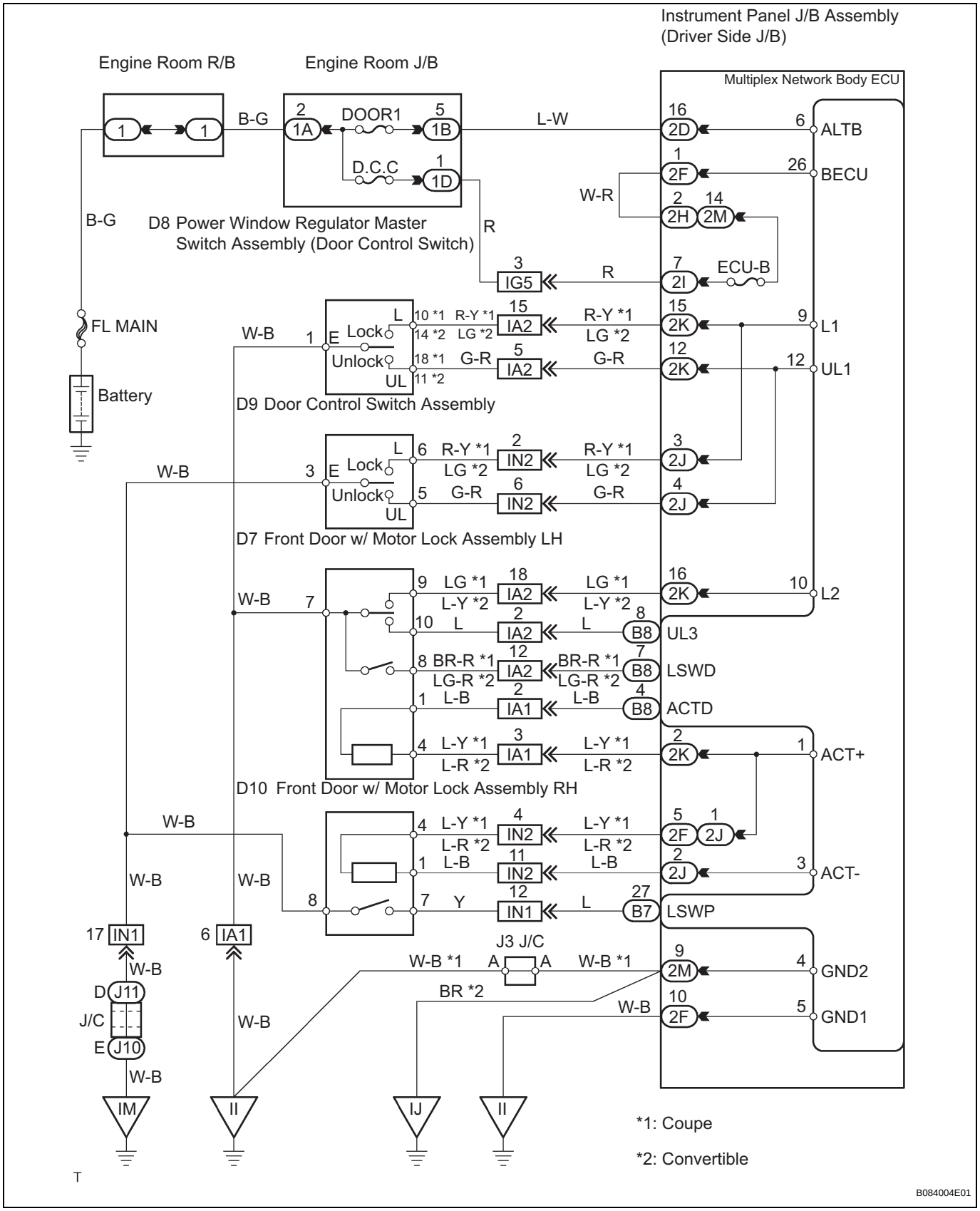
(g) Check the driver door-linked automatic door unlock.
(1) With the driver side door closed, turning the ignition switch from ON to OFF and opening the driver door within 10 seconds will automatically unlock all the doors.

All Doors cannot be Locked / Unlocked Simultaneously

DESCRIPTION

The multiplex network body ECU activates the door lock motors with switch signals from the master switch, door control switch and driver/passenger side door key cylinder.

WIRING DIAGRAM



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1	**INSPECT ALL DOORS LOCK/UNLOCK OPERATION**

(a) All the doors can be locked/unlocked simultaneously using the following items:
- Door control switch on the master switch (switch operation)
- Door control switch on the front passenger side (switch operation)
- Door key cylinder linked with driver side door lock (key operation)

(b) If all the doors cannot be locked/unlocked simultaneously, proceed to the next step according to the malfunctioning part shown in the table below.

Result

Malfunctioning part	Proceed to
Door control switch on master switch	A
Door control switch on front passenger side	B
Driver side door key cylinder	C
Door control switch on master switch and driver side door key cylinder	D
All items listed above are malfunctioning	E

B → **Go to step 4**

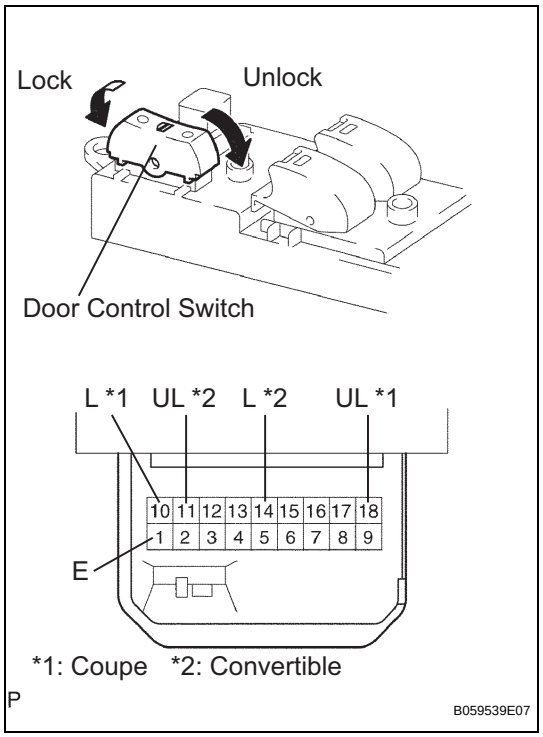
C → **Go to step 6**

D → **Go to step 9**

E → **Go to step 14**

A

2 INSPECT POWER WINDOW REGULATOR MASTER SWITCH ASSEMBLY (DOOR CONTROL SWITCH)



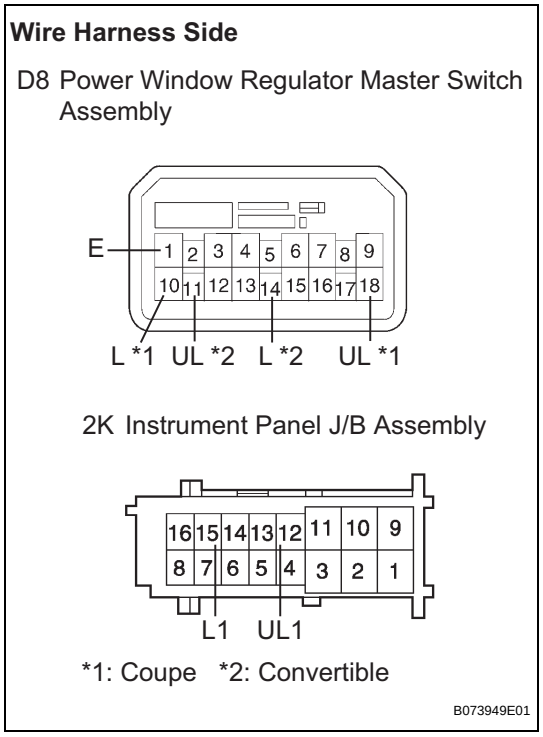
(a) Measure the resistance of the door control switch.
Resistance

Tester Connection	Switch Condition	Specified Condition
1 (E) - 10*1 (L) 1 (E) - 14*2 (L)	Lock	Below 1 Ω
1 (E) - 10*1 (L) 1 (E) - 14*2 (L) 1 (E) - 18*1 (UL) 1 (E) - 11*2 (UL)	OFF	10 kΩ or higher
1 (E) - 18*1 (UL) 1 (E) - 11*2 (UL)	Unlock	Below 1 Ω

NG → **REPLACE POWER WINDOW REGULATOR MASTER SWITCH ASSEMBLY**

OK

3 CHECK WIRE HARNESS (MASTER SWITCH - INSTRUMENT PANEL J/B AND BODY GROUND)



(a) Disconnect the D8 switch connector.
(b) Disconnect the 2K J/B connector.
(c) Measure the resistance of the wire harness side connectors.
Resistance

Tester Connection	Specified Condition
D8-10*1 (L) - 2K-15 (L1)	Below 1 Ω
D8-14*2 (L) - 2K-15 (L1)	Below 1 Ω
D8-18*1 (UL) - 2K-12 (UL1)	Below 1 Ω
D8-11*2 (UL) - 2K-12 (UL1)	Below 1 Ω
D8-1 (E) - Body ground	Below 1 Ω
D8-10*1 (L) or 2K-15 (L1) - Body ground	10 kΩ or higher
D8-14*2 (L) or 2K-15 (L1) - Body ground	10 kΩ or higher
D8-18*1 (UL) or 2K-12 (UL1) - Body ground	10 kΩ or higher
D8-11*2 (UL) or 2K-12 (UL1) - Body ground	10 kΩ or higher

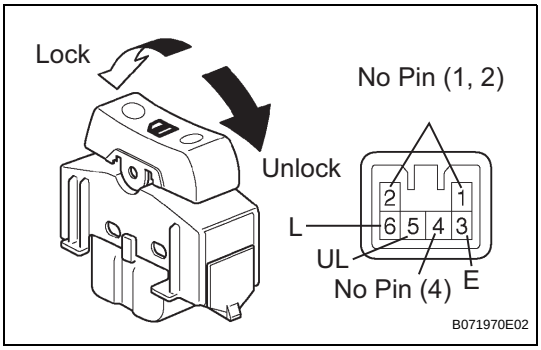
NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

DL

OK

REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY (MULTIPLEX NETWORK BODY ECU)

4 INSPECT DOOR CONTROL SWITCH ASSEMBLY



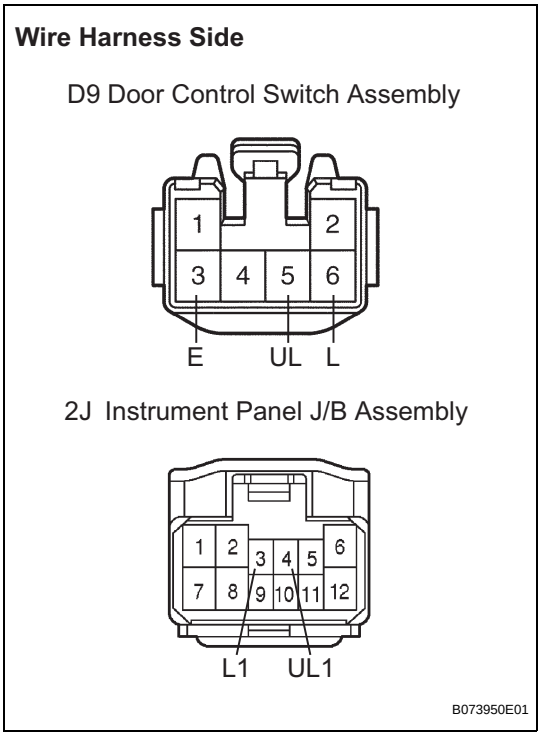
(a) Measure the resistance of the switch.
Resistance

Tester Connection	Switch Condition	Specified Condition
3 (E) - 6 (L)	Lock	Below 1 Ω
3 (E) - 5 (UL) 3 (E) - 6 (L)	OFF	10 kΩ or higher
3 (E) - 5 (UL)	Unlock	Below 1 Ω

NG → **REPLACE DOOR CONTROL SWITCH ASSEMBLY**

OK

5 CHECK WIRE HARNESS (DOOR CONTROL SWITCH - INSTRUMENT PANEL J/B AND BODY GROUND)



(a) Disconnect the D9 switch connector.
(b) Disconnect the 2J J/B connector.
(c) Measure the resistance of the wire harness side connectors.
Resistance

Tester Connection	Specified Condition
D9-6 (L) - 2J-3 (L1)	Below 1 Ω
D9-5 (UL) - 2J-4 (UL1)	Below 1 Ω
D9-3 (E) - Body ground	Below 1 Ω
D9-6 (L) or 2J-3 (L1) - Body ground	10 kΩ or higher
D9-5 (UL) - 2J-4 (UL1) - Body ground	10 kΩ or higher

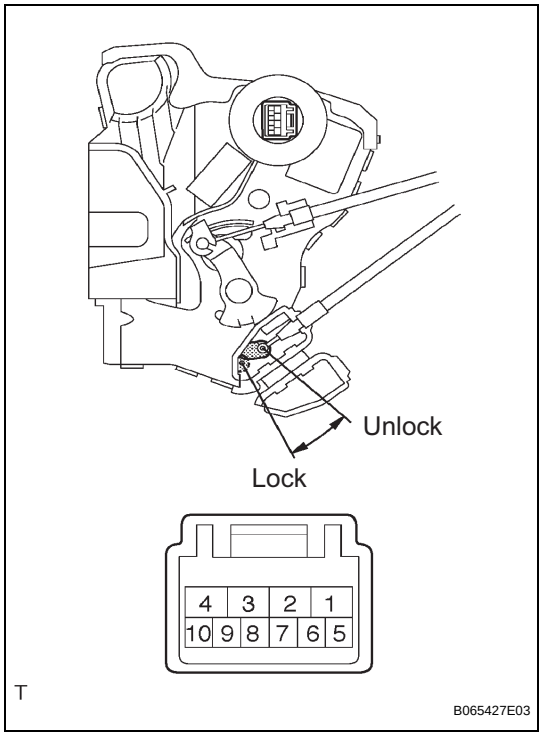
NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY (MULTIPLEX NETWORK BODY ECU)

DL

6 INSPECT FRONT DOOR LOCK ASSEMBLY LH (DOOR LOCK MOTOR)



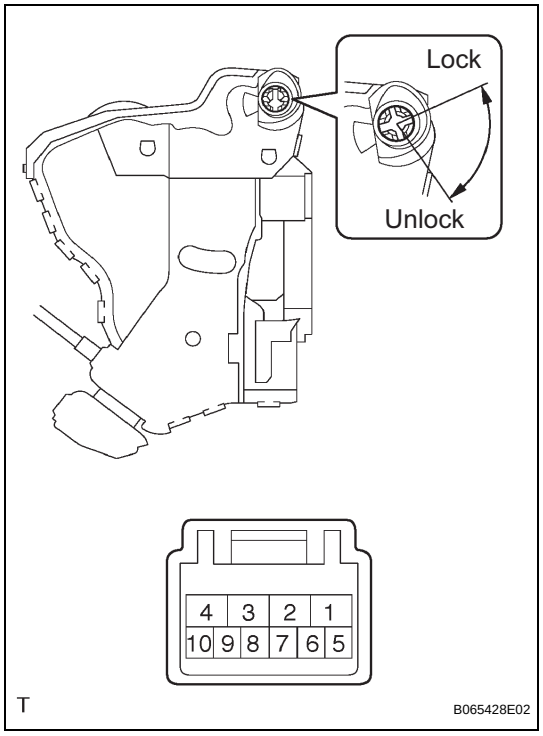
(a) Apply battery voltage to the door lock and check operation of the door lock motor.
OK

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 4 Battery negative (-) → Terminal 1	Lock
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 4	Unlock

NG → **REPLACE FRONT DOOR LOCK ASSEMBLY LH**

OK

7 INSPECT FRONT DOOR LOCK ASSEMBLY LH (DOOR LOCK AND UNLOCK SWITCH AND POSITION SWITCH)



(a) Measure the resistance of the door lock and unlock switch and position switch.
Resistance:
Door lock and unlock switch

Tester Connection	Door Lock Condition	Specified Condition
7 - 9	Lock	Below 1 Ω
7 - 9, 7 - 10	OFF	10 kΩ or higher
7 - 10	Unlock	Below 1 Ω

Position switch

Tester Connection	Door Lock Condition	Specified Condition
7 - 8	Lock	10 kΩ or higher
7 - 8	Unlock	Below 1 Ω

NG → **REPLACE FRONT DOOR LOCK ASSEMBLY LH**

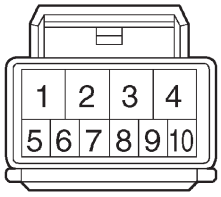
DL

OK

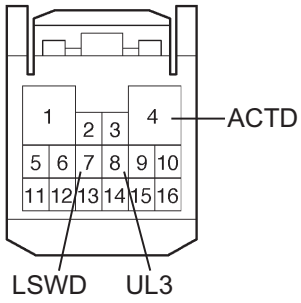
8	CHECK WIRE HARNESS (DOOR LOCK - MPX BODY ECU, INSTRUMENT PANEL J/B - BODY GROUND)

Wire Harness Side

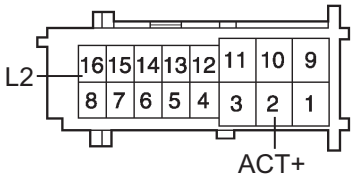
D7 Front Door Lock Assembly LH



B8 Multiplex Network Body ECU



2K Instrument Panel J/B Assembly



T

B069877E01

(a) Disconnect the D7 lock connector.
(b) Disconnect the B8 ECU connector.
(c) Disconnect the 2K J/B connector.
(d) Measure the resistance of the wire harness side connectors.

Resistance

Tester Connection	Specified Condition
D7-4 - 2K-2 (ACT+)	Below 1 Ω
D7-1 - B8-4 (ACTD)	Below 1 Ω
D7-9 - 2K-16 (L2)	Below 1 Ω
D7-10 - B8-8 (UL3)	Below 1 Ω
D7-8 - B8-7 (LSWD)	Below 1 Ω
D7-7 - Body ground	Below 1 Ω
D7-4 or 2K-2 (ACT+) - Body ground	10 kΩ or higher
D7-1 or B8-4 (ACTD) - Body ground	10 kΩ or higher
D7-9 or 2K-16 (L2) - Body ground	10 kΩ or higher
D7-10 or B8-8 (UL3) - Body ground	10 kΩ or higher
D7-8 or B8-7 (LSWD) - Body ground	10 kΩ or higher

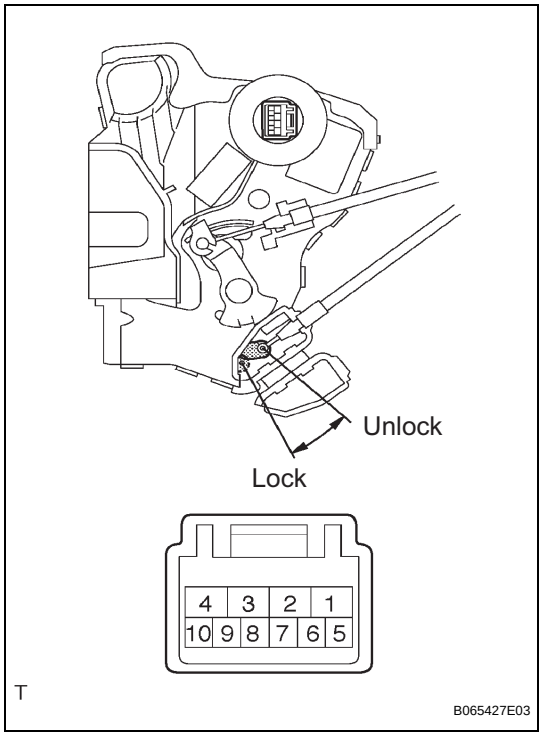
NG → REPAIR OR REPLACE HARNESS AND CONNECTOR

DL

OK

REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY (MULTIPLEX NETWORK BODY ECU)

9 INSPECT FRONT DOOR LOCK ASSEMBLY LH (DOOR LOCK MOTOR)



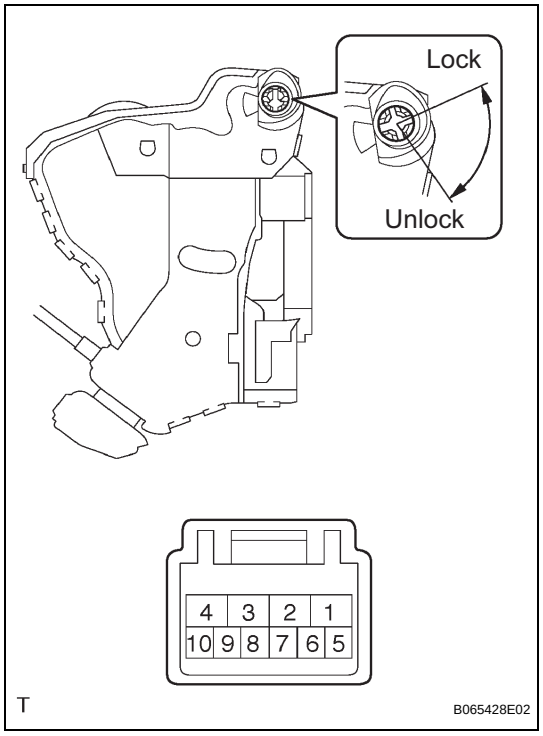
(a) Apply battery voltage to the door lock and check operation of the door lock motor.
OK

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 4 Battery negative (-) → Terminal 1	Lock
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 4	Unlock

NG → **REPLACE FRONT DOOR LOCK ASSEMBLY LH**

OK

10 INSPECT FRONT DOOR LOCK ASSEMBLY LH (DOOR LOCK AND UNLOCK SWITCH AND POSITION SWITCH)



(a) Measure the resistance of the door lock and unlock switch and position switch.
Resistance:
Door lock and unlock switch

Tester Connection	Door Lock Condition	Specified Condition
7 - 9	Lock	Below 1 Ω
7 - 9 7 - 10	OFF	10 kΩ or higher
7 - 10	Unlock	Below 1 Ω

Position switch

Tester Connection	Door Lock Condition	Specified Condition
7 - 8	Lock	10 kΩ or higher
7 - 8	Unlock	Below 1 Ω

NG → **REPLACE FRONT DOOR LOCK ASSEMBLY LH**

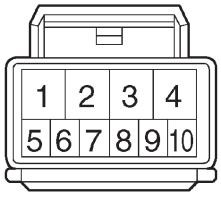
DL

OK

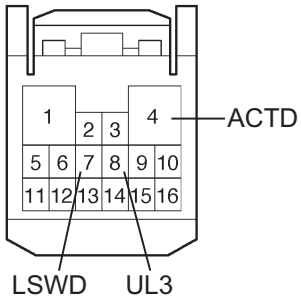
11	CHECK WIRE HARNESS (DOOR LOCK - MPX BODY ECU, INSTRUMENT PANEL J/B - BODY GROUND)

Wire Harness Side

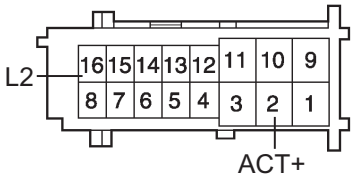
D7 Front Door Lock Assembly LH



B8 Multiplex Network Body ECU



2K Instrument Panel J/B Assembly



T

B069877E01

(a) Disconnect the D7 lock connector.
(b) Disconnect the B8 ECU connector.
(c) Disconnect the 2K J/B connector.
(d) Measure the resistance of the wire harness side connectors.

Resistance

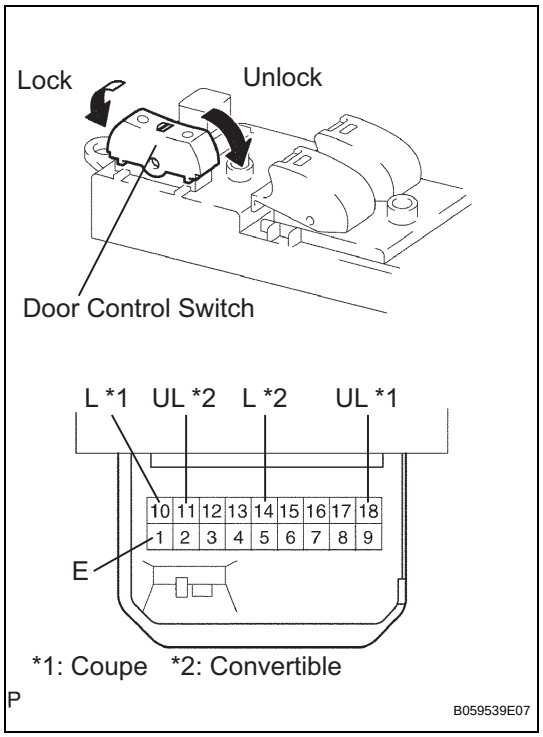
Tester Connection	Specified Condition
D7-4 - 2K-2 (ACT+)	Below 1 Ω
D7-1 - B8-4 (ACTD)	Below 1 Ω
D7-9 - 2K-16 (L2)	Below 1 Ω
D7-10 - B8-8 (UL3)	Below 1 Ω
D7-8 - B8-7 (LSWD)	Below 1 Ω
D7-7 - Body ground	Below 1 Ω
D7-4 or 2K-2 (ACT+) Body ground	10 kΩ or higher
D7-1 or B8-4 (ACTD) Body ground	10 Ω or higher
D7-9 or 2K-16 (L2) Body ground	10 kΩ or higher
D7-10 or B8-8 (UL3) Body ground	10 kΩ or higher
D7-8 or B8-7 (LSWD) Body ground	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS AND CONNECTOR

DL

OK

12 INSPECT POWER WINDOW REGULATOR MASTER SWITCH ASSEMBLY (DOOR CONTROL SWITCH)



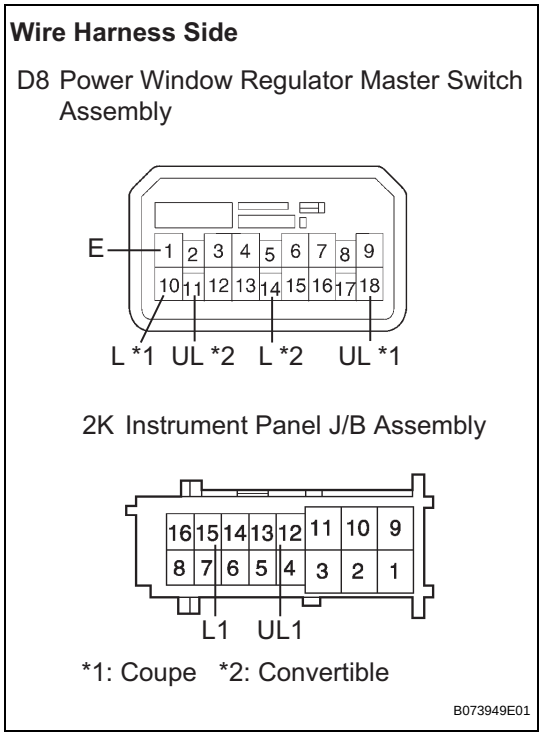
(a) Measure the resistance of the door control switch.
Resistance

Tester Connection	Switch Condition	Specified Condition
1 (E) - 10*1 (L) 1 (E)- 14*2 (L)	Lock	Below 1 Ω
1 (E)- 10*1 (L) 1 (E) - 14*2 (L) 1 (E) - 18*1 (UL) 1 (E) - 11*2 (UL)	OFF	10 kΩ or higher
1 (E) - 18*1 (UL) 1 (E) - 11*2 (UL)	Unlock	Below 1 Ω

NG → **REPLACE POWER WINDOW REGULATOR MASTER SWITCH ASSEMBLY**

OK

13 CHECK WIRE HARNESS (MASTER SWITCH - INSTRUMENT PANEL J/B AND BODY GROUND)



(a) Disconnect the D8 switch connector.
(b) Disconnect the 2K J/B connector.
(c) Measure the resistance of the wire harness side connectors.
Resistance

Tester Connection	Specified Condition
D8-10*1 (L) - 2K-15 (L1)	Below 1 Ω
D8-14*2 (L) - 2K-15 (L1)	Below 1 Ω
D8-18*1 (UL) - 2K-12 (UL1)	Below 1 Ω
D8-11*2 (UL) - 2K-12 (UL1)	Below 1 Ω
D8-1 (E) - Body ground	Below 1 Ω
D8-10*1(L) or 2K-15 (L1) - Body ground	10 kΩ or higher
D8-14*2 (L) or 2K-15 (L1) - Body ground	10 kΩ or higher
D8-18*1 (UL) or 2K-12 (UL1) - Body ground	10 kΩ or higher
D8-11*2 (UL) or 2K-12 (UL1) - Body ground	10 kΩ or higher

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

DL

OK

REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY (MULTIPLEX NETWORK BODY ECU)

14	INSPECT FUSE (ECU-B, DOOR1, D.C.C)

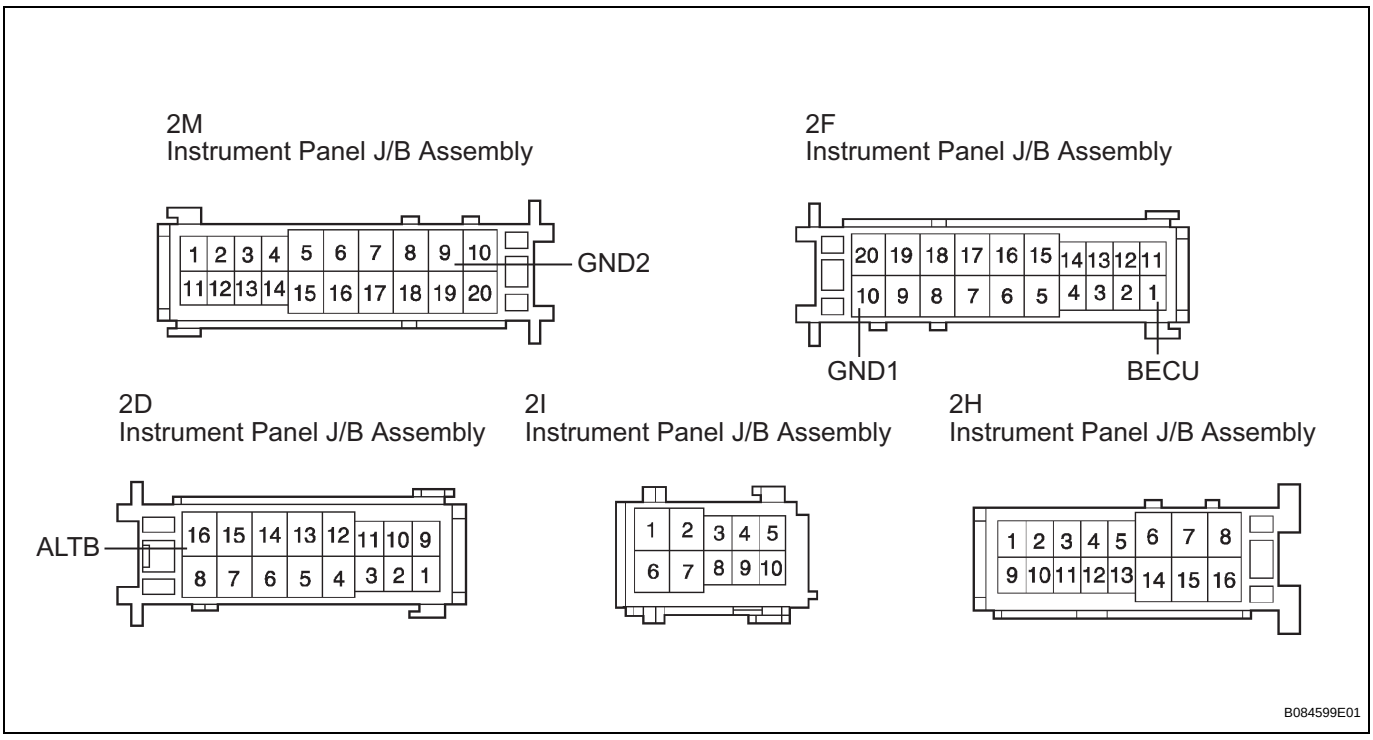
(a) Remove the ECU-B fuse from the instrument panel J/B.
(b) Remove the DOOR1 and D.C.C fuses from the engine room J/B.
(c) Measure the resistance of the fuse.
Resistance:
Below 1 Ω

NG → **REPLACE FUSE**

OK

15	CHECK WIRE HARNESS (INSTRUMENT PANEL J/B - INSTRUMENT PANEL J/B, BAT AND GND)

(a) Disconnect the 2D, 2F, 2H, 2I and 2M instrument panel J/B connectors.



(b) Measure the voltage and resistance of the wire harness side connectors.
Voltage and resistance:
Voltage

Tester Connection	Specified Condition
2D-16 (ALTB) - Body ground	10 to 14 V

Tester Connection	Specified Condition
2I-7 - Body ground	10 to 14 V

Resistance

Tester Connection	Specified Condition
2F-1 (BECU) - 2H-2	Below 1 Ω
2F-10 (GND1) - Body ground	Below 1 Ω
2M-9 (GND2) - Body ground	Below 1 Ω
2F-1 (BECU) or 2H-2 - Body ground	10 kΩ higher

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

OK

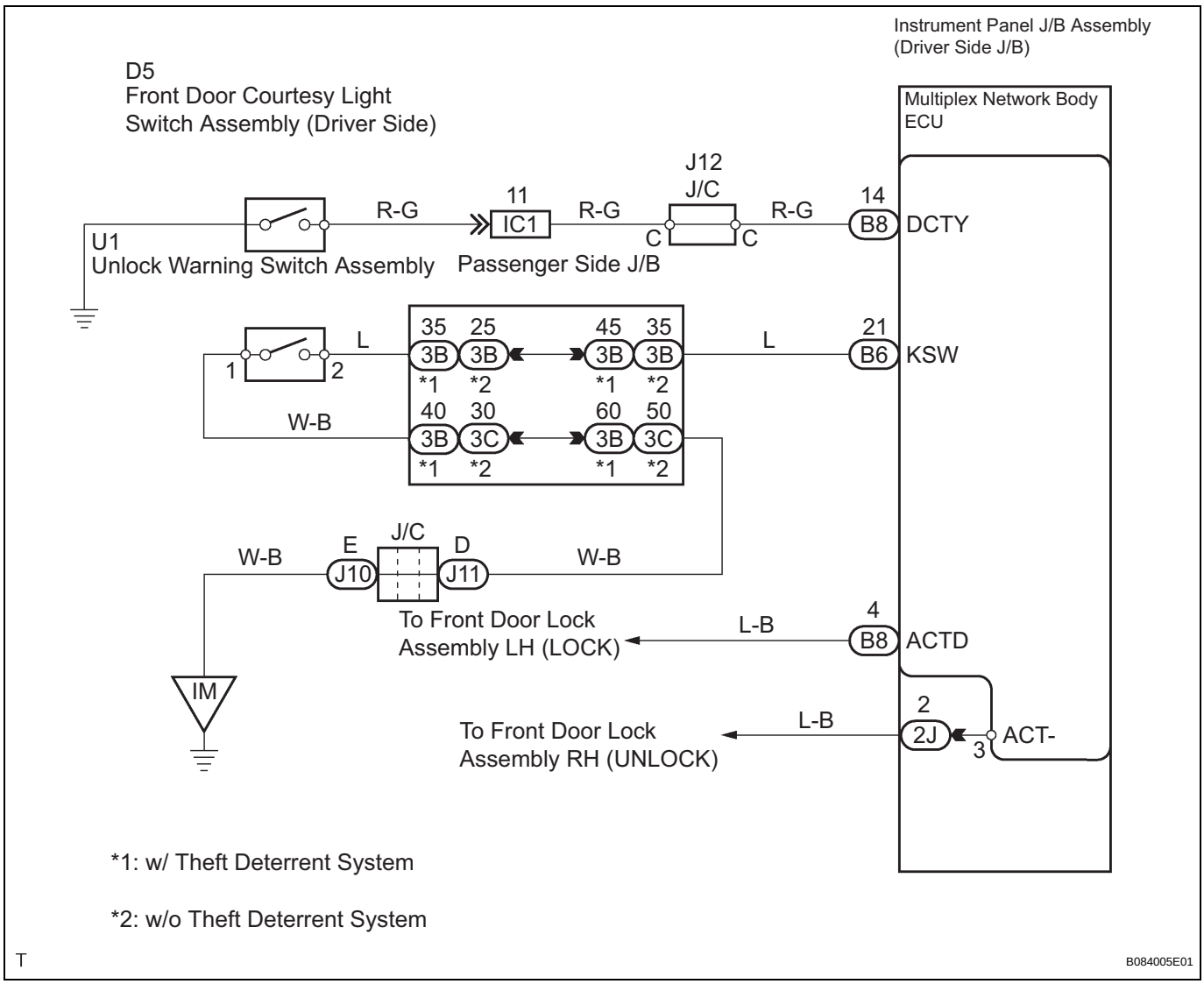
REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY (MULTIPLEX NETWORK BODY ECU)

Key Lock-in Prevention Function does not Work Properly (Manual Operation and Key-Linked Lock are Activated)

DESCRIPTION

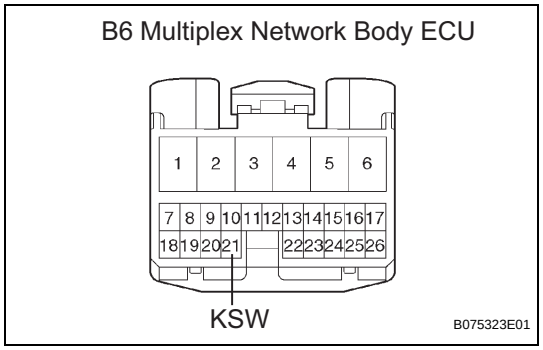
To prevent the key from being locked in the vehicle, the body ECU prevents doors from being locked by monitoring 2 switches: 1) the unlock warning switch, which turns ON when the key is inserted into the ignition key cylinder; and 2) the driver side courtesy light switch, which turns ON when the driver side door is opened.

WIRING DIAGRAM



DL

1 CHECK WIRE HARNESS (MULTIPLEX NETWORK BODY ECU - BODY GROUND)



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

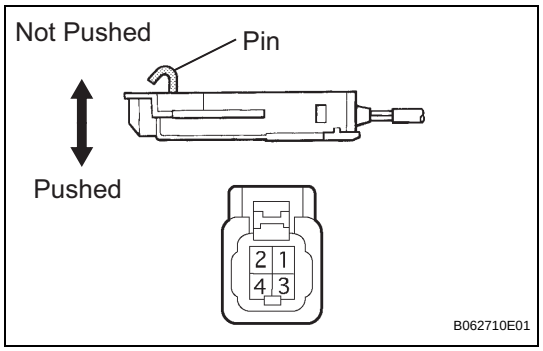
Resistance

Tester Connection	Condition	Specified Condition
B6-21 (KSW) - Body ground	1: No key in ignition key cylinder → 2: Key inserted	1: 10 kΩ or higher → 2: Below 1 Ω

OK → **Go to step 4**

NG → **Go to step 2**

2 INSPECT UNLOCK WARNING SWITCH ASSEMBLY



(a) Remove the unlock warning switch.
(b) Measure the resistance of the switch.

Resistance

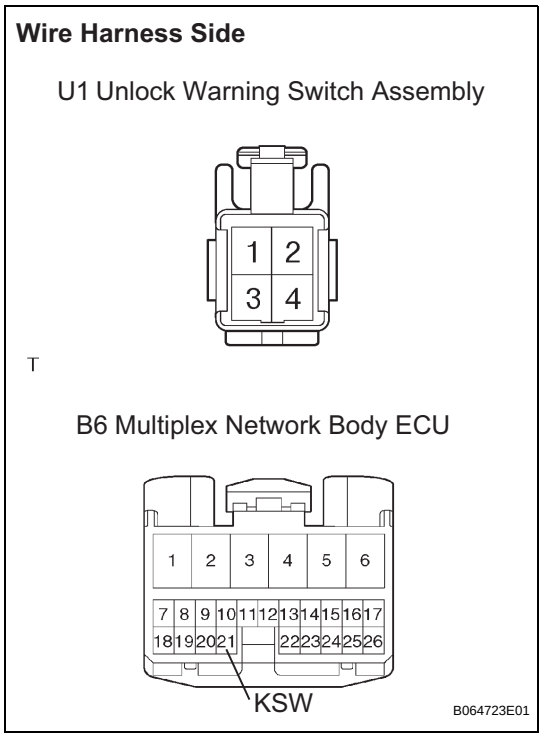
Tester Connection	Switch Condition	Specified Condition
1 - 2	Not pushed	10 kΩ or higher
1 - 2	Pushed	Below 1 Ω

NG → **REPLACE UNLOCK WARNING SWITCH ASSEMBLY**

OK

DL

3	CHECK WIRE HARNESS (UNLOCK WARNING SWITCH - MPX BODY ECU AND BODY GROUND)



(a) Disconnect the U1 switch connector.
(b) Disconnect the B6 ECU connector.
(c) Measure the resistance of the wire harness side connectors.

Resistance

Tester Connection	Specified Condition
U1-2 - B6-21 (KSW)	Below 1 Ω
U1-1 - Body ground	Below 1 Ω
U1-2 or B6-21 (KSW) - Body ground	10 kΩ or higher

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

OK

4	CHECK FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY (DRIVER SIDE)

(a) Move the room light switch to the DOOR position and open the driver side door. Then check that the room light turns ON.

OK:

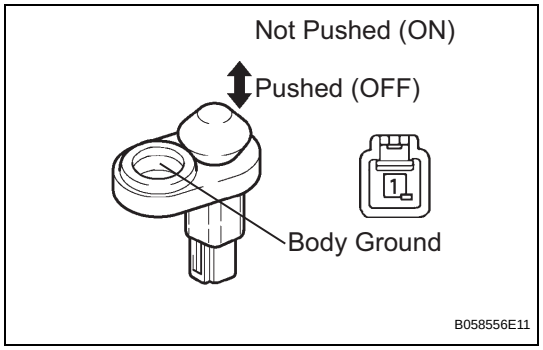
Room light turns ON.

NG → **Go to step 5**

OK

REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY

5 INSPECT FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY (DRIVER SIDE)



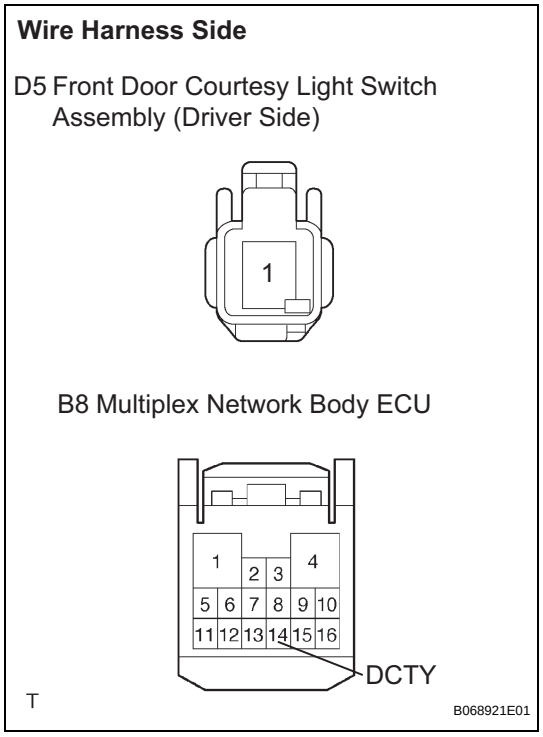
(a) Remove the courtesy light switch.
(b) Measure the resistance of the switch.
Resistance

Tester Connection	Switch Condition	Specified Condition
1 - Body ground	Not pushed (ON)	Below 1 Ω
1 - Body ground	Pushed (OFF)	10 kΩ or higher

NG → **REPLACE FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY**

OK

6 CHECK HARNESS AND CONNECTOR (COURTESY LIGHT SWITCH - MULTIPLEX NETWORK BODY ECU)



(a) Disconnect the D5 switch connector.
(b) Disconnect the B8 ECU connector.
(c) Measure the resistance of the wire harness side connectors.
Resistance

Tester Connection	Specified Condition
D5-1 - B8-14 (DCTY)	Below 1 Ω
D5-1 or B8-14 (DCTY) - Body ground	10 kΩ or higher

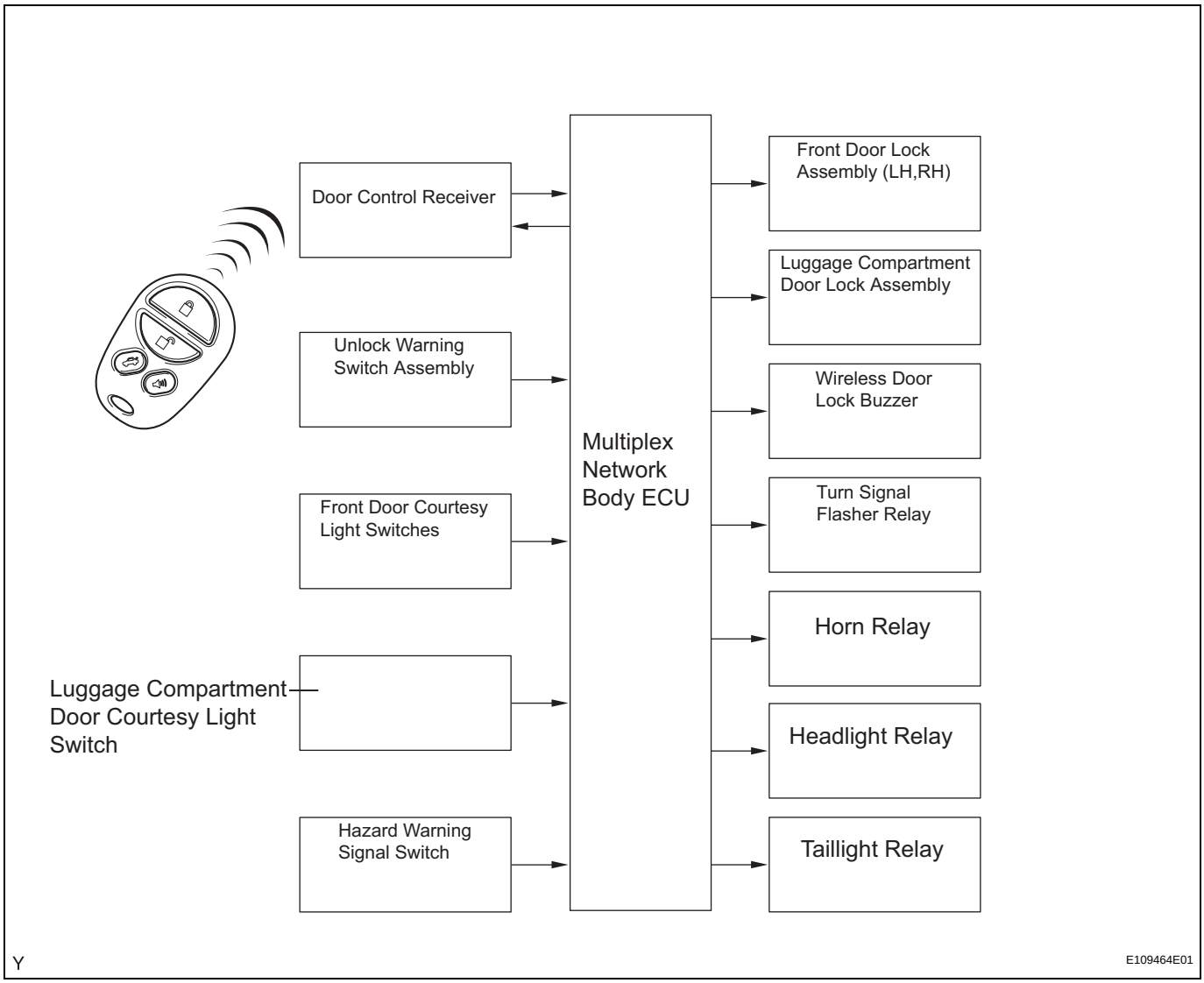
NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

REPLACE UNLOCK WARNING SWITCH ASSEMBLY

DL

SYSTEM DIAGRAM



SYSTEM DESCRIPTION

1. WIRELESS DOOR CONTROL SYSTEM DESCRIPTION

(a) This system locks and unlocks the vehicle's doors remotely. The wireless control system has the following features:

- The door control receiver performs the code identification process and the multiplex network body ECU operates the door lock control. A serial data link is provided for communication between the door control receiver and the multiplex network body ECU.
- A key-holder type transmitter is used and it contains the following 4 switches: the door lock switch, door unlock switch, trunk open switch and panic switch.

(b) The wireless door lock control system has the following functions:

Function	Outline
All door lock operation	Pressing LOCK switch locks all doors.
All doors unlock operation (2-step unlock operation)	Pressing UNLOCK switch once will unlock driver side door. Pressing UNLOCK switch again within 3 seconds will unlock remaining doors.
Trunk open operation	Holding TRUNK OPEN switch for 2 seconds opens luggage compartment door (trunk).
Answer-back operation	• Hazard warning lights flash once when doors are locked, and flash twice when doors are unlocked. These flashes inform that operation has been completed. • Wireless door lock buzzer sounds once when doors are locked, and sounds twice when doors are unlocked. These buzzer sounds inform that operation has been completed.
Panic alarm operation	Holding down PANIC switch sets off theft deterrent alarm, which consists of sounding horn, and flashing headlights, taillights and hazard warning lights.
Automatic lock function	If no doors are opened within 30 seconds after they are unlocked by wireless door lock remote control, all doors will lock again automatically.
Repeat function	If a door is not locked in response to locking operation of transmitter, multiplex network body ECU will output lock signal after 2 seconds.
Illuminated entry function	With all doors locked, pressing UNLOCK switch causes room light to illuminate simultaneously with unlocking operation.
Security function	Sends signal as rolling code.
Door ajar warning function	With door open or ajar, pressing LOCK switch causes wireless door lock buzzer to sound for about 10 seconds.
Transmitter recognition code registration function	Enables registering (writing and storing) of 4 types of transmitter recognition codes in EERPOM, which is built into multiplex network body ECU.
Self-diagnosis	If system has malfunction, multiplex network body ECU sets DTC in its memory.

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:
The wireless door lock control system troubleshooting procedures are based on the premise that the power door lock system is operating normally. Check the power door lock system first before troubleshooting the wireless door lock control system.
Use this procedure to troubleshoot the wireless door lock control system.
The intelligent tester should be used in step 3.

1	VEHICLE BROUGHT TO WORKSHOP

2	CHECK FOR DTCS

HINT:
See page DL-41
(a) Check for DTCs and note any codes that are output.
(b) Delete the DTC.
(c) Recheck for DTCs. Try to prompt the DTC by simulating the original activity that the DTC suggested.
  (1) If the DTC does not reoccur, proceed to A.
  (2) If the DTC reoccurs, proceed to B.

B	Go to step 6

A

3	PROBLEM SYMPTOMS TABLE

HINT:
See page DL-37
(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 6

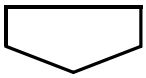
A

4	OVERALL ANALYSIS AND TROUBLESHOOTING

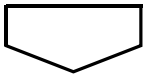
(a) Terminals of ECU (See page DL-38)
(b) On-vehicle inspection (See page DL-41)

DL

5	**ADJUST, REPAIR OR REPLACE**



6	**CONFIRMATION TEST**



END

REGISTRATION

HINT:

- Recognition code registration is necessary when replacing the door control transmitter or the door control receiver.
- Add mode is used to register new recognition codes while still retaining codes already registered. This mode is used when a new transmitter is added. If the number of registered codes exceeds 4, the previously registered codes will be erased in order, starting from the first registered code.
- Rewrite mode is used to erase all previously registered recognition codes in order to register new recognition codes. This mode is used when the transmitter or the door control receiver is replaced.
- Confirmation mode is used to confirm how many recognition codes have already been registered before another recognition code is registered.
- Prohibition mode is used to erase all the registered codes and disable the wireless door lock function. This mode is used when the transmitter is lost.
- All of the following registration procedures must be performed in order.

PROBLEM SYMPTOMS TABLE

WIRELESS DOOR LOCK CONTROL SYSTEM

Symptom	Suspected area	See page
Only wireless control function is inoperative	1. Transmitter battery	DL-47
	2. Door control transmitter	DL-47
	3. Door control receiver	DL-47
	4. Unlock warning switch assembly	DL-47
	5. Wire harness	DL-47
	6. Instrument panel J/B assembly (multiplex network body ECU)	DL-47
	7. Wireless door lock buzzer	DL-47
	8. Lighting system	LI-9
No answer-back (Hazard warning light and wireless door function buzzer)	1. Wireless door lock buzzer	DL-56
	2. Lighting system	LI-9
	3. Wire harness	DL-56
	4. Instrument panel J/B assembly (multiplex network body ECU)	DL-56

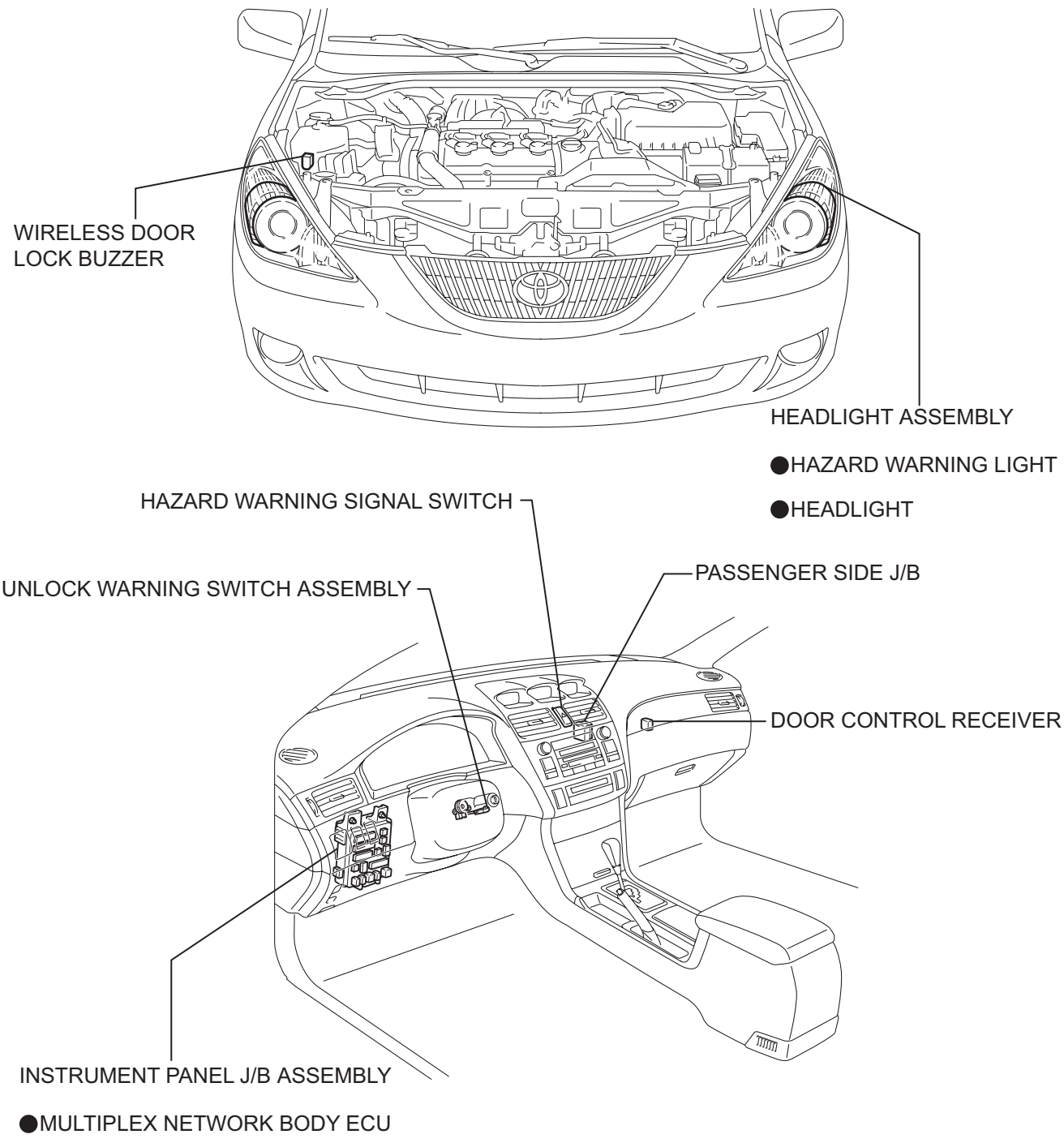
WIRELESS DOOR LOCK CONTROL SYSTEM

PRECAUTION

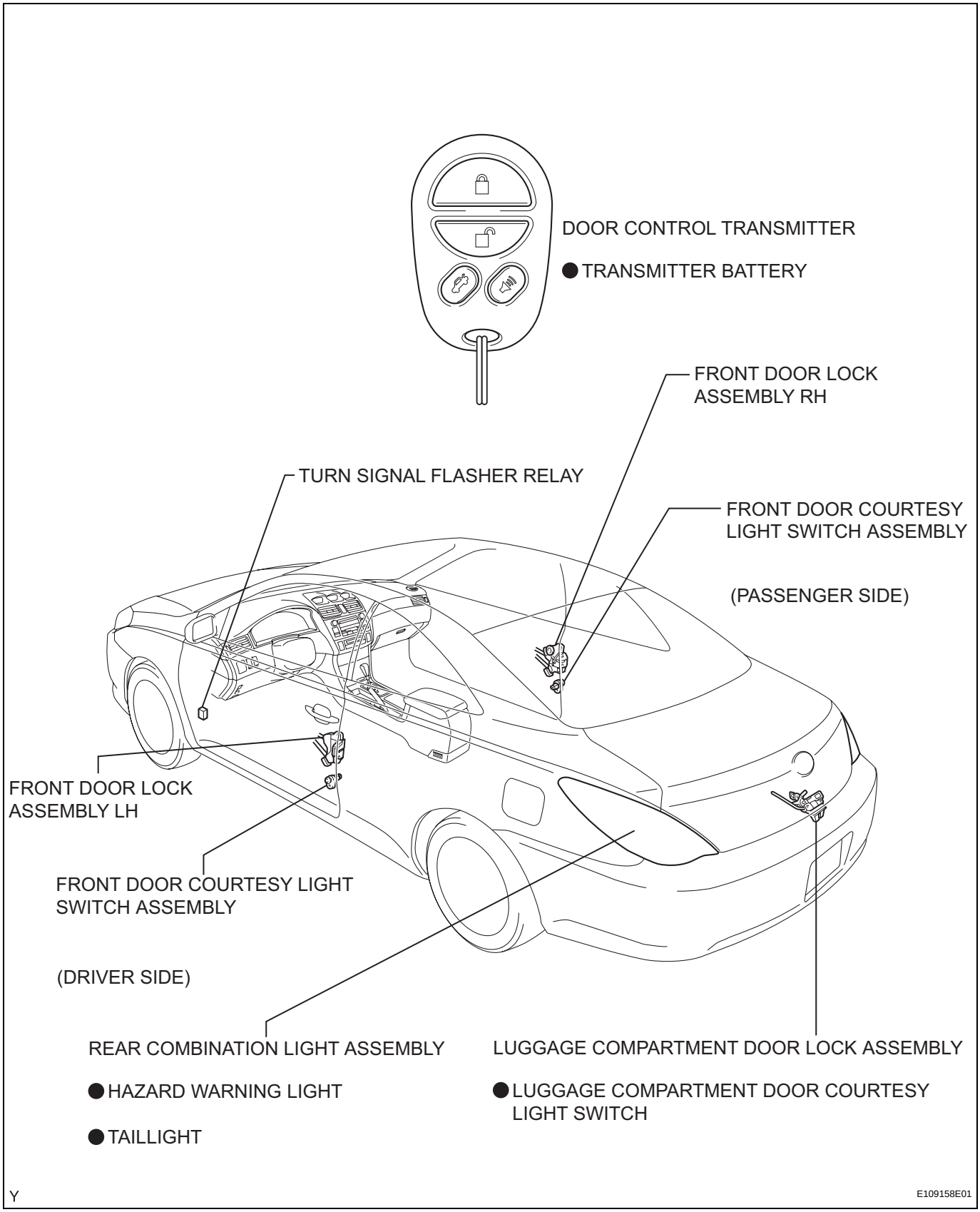
NOTICE:
When disconnecting the negative (-) battery terminal, initialize the following system(s) after the terminal is reconnected.

System Name	See Procedure
Power Window Control System (Coupe)	WS-6
Sliding Roof System	RF-4

PARTS LOCATION



DL


DOOR CONTROL TRANSMITTER
● TRANSMITTER BATTERY
FRONT DOOR LOCK ASSEMBLY RH
TURN SIGNAL FLASHER RELAY
FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY
(PASSENGER SIDE)
FRONT DOOR LOCK ASSEMBLY LH
FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY
(DRIVER SIDE)
REAR COMBINATION LIGHT ASSEMBLY
● HAZARD WARNING LIGHT
● TAILLIGHT
LUGGAGE COMPARTMENT DOOR LOCK ASSEMBLY
● LUGGAGE COMPARTMENT DOOR COURTESY LIGHT SWITCH
Y
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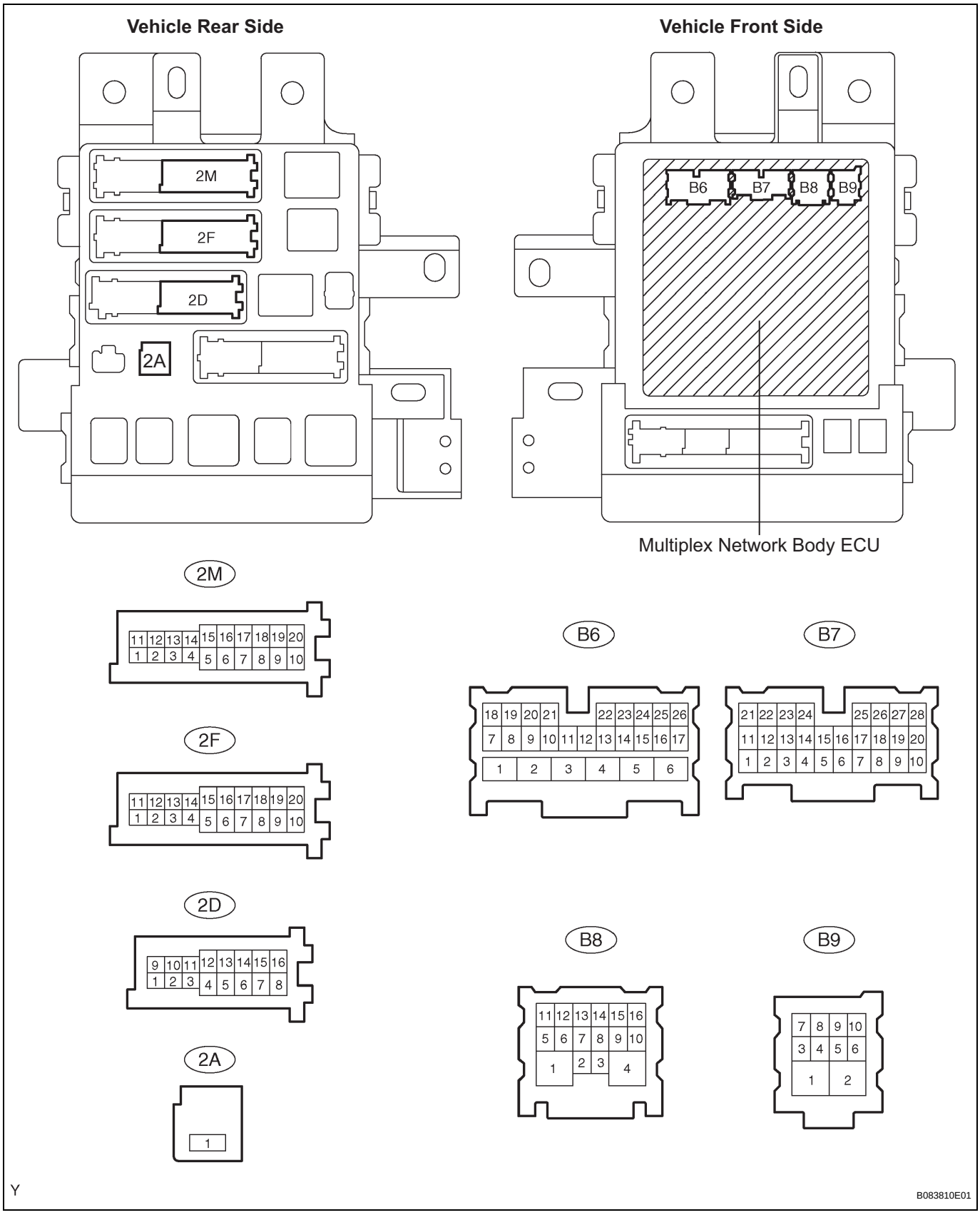
DL

TERMINALS OF ECU

1. CHECK INSTRUMENT PANEL J/B ASSEMBLY (MULTIPLEX NETWORK BODY ECU)



(a) Disconnect the B6, B7, B8 and B9 ECU connectors.

(b) Disconnect the 2A, 2D, 2F and 2M J/B connectors.
(c) Measure the voltage and resistance of the wire harness side connectors.

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
IG (2A-1) - Body ground	B-G - Body ground	Ignition power supply	Ignition switch 1: OFF → 2: ON	1: 0V 2: 10 to 14 V
ACC (2A-1) - Body ground	B-G - Body ground	Ignition power supply	Ignition switch 1: OFF → 2: ACC	1: 0V 2: 10 to 14 V
BECU (2F-1) - Body ground	W-R - Body ground	+B (BECU) power supply	Always	10 to 14 V
ALTB (2D-16) - Body ground	L-W - Body ground	+B (power system, generator system) power supply	Always	10 to 14 V
KSW (B6-21) - Body ground	L - Body ground	Key unlock warning switch input	1: No key in ignition key cylinder → 2: Key inserted	1: 10 kΩ or higher → 2: Below 1 Ω
DCTY (B8-14) - Body ground	R-G - Body ground	Driver side courtesy switch input	Driver side door 1: Closed → 2: Open	1: 10 kΩ or higher → 2: Below 1 Ω
PCTY (B7-23) - Body ground	R-G - Body ground	Passenger side courtesy switch input	Passenger side door 1: Closed → 2: Open	1: 10 kΩ or higher → 2: Below 1 Ω
LGCY (B7-25) - Body ground	G-R*1 - Body ground	Luggage compartment door courtesy switch input	Luggage compartment door 1: Closed → 2: Open	1: 10 kΩ or higher → 2: Below 1 Ω
LGCY (B7-25) - Body ground	R*2 - Body ground	Luggage compartment door courtesy switch input	Luggage compartment door 1: Closed → 2: Open	1: 10 kΩ or higher → 2: Below 1 Ω
GND1 (2F-10) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω
GND2 (2M-9) - Body ground	W-B*1 - Body ground	Ground	Always	Below 1 Ω
GND2 (2M-9) - Body ground	BR*2 - Body ground	Ground	Always	Below 1 Ω

If the result is not as specified, there may be a malfunction on the wire harness side.
*1: Coupe
*2: Convertible

(d) Reconnect the B6, B7, B8 and B9 ECU connectors.
(e) Reconnect the 2A, 2D, 2F and 2M J/B connectors.
(f) Measure the voltage of the connectors.

DL

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
HAZ (B6-2) - Body ground	LG - Body ground	Hazard light drive	Answer-Luggage compartment 1: OFF → 2: ON	1: 10 to 14 V → 2: Pulse generation
BZR (B9-2) - Body ground	L - Body ground	Wireless door lock buzzer	Wireless door lock buzzer 1: OFF → 2: ACC	1: 0V → 2: Pulse generation
RDA (B8-12) - Body ground	L-W - Body ground	Door control receiver input	Each transmitter switch 1: OFF → 2: ON (No key in ignition key cylinder and all doors closed)	1: Below 1 V → 2: Alternating 6 to 7 V and below 1 V

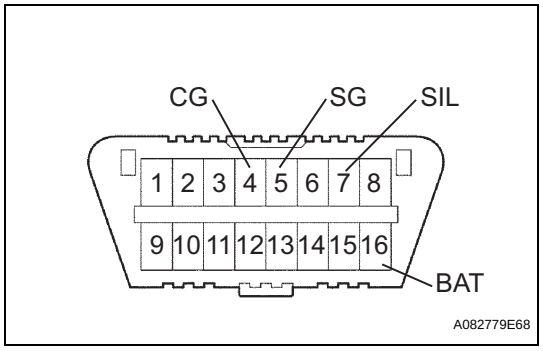
If the result is not as specified, there may be a malfunction on the J/B assembly (multiplex network body ECU).

DIAGNOSIS SYSTEM

1. DESCRIPTION

(a) Wireless door lock control system data and the DTCs can be read in the DLC3 of the vehicle. When the system seems to be malfunctioning, use the intelligent tester to check for malfunctions and perform repairs.

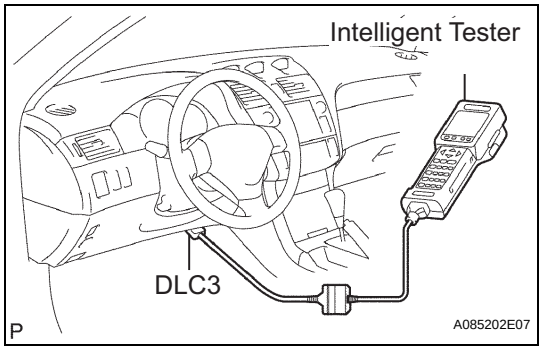
2. CHECK DLC3



(a) The vehicle uses ISO 9141-2 communication protocol. The terminal arrangement of the DLC3 complies with SAE J1962 and matches the ISO 9141-2 format.

Symbols (Terminals No.)	Terminal Description	Condition	Specified Condition
SIL (7) - SG (5)	Bus "+" line	During transmission	Pulse generation
CG (4) - Body ground	Chassis ground	Always	Below 1 Ω
SG (5) - Body ground	Signal ground	Always	Below 1 Ω
BAT (16) - Body ground	Battery positive	Always	11 to 14 V

If the result is not as specified, the DLC3 may have a malfunction. Repair or replace the harness and connector.



(b) Connect the cable of the intelligent tester to the DLC3, turn the ignition switch ON and attempt to use the intelligent tester. If the screen displays the message UNABLE TO CONNECT TO VEHICLE, there is a problem either with the vehicle or with the tester.

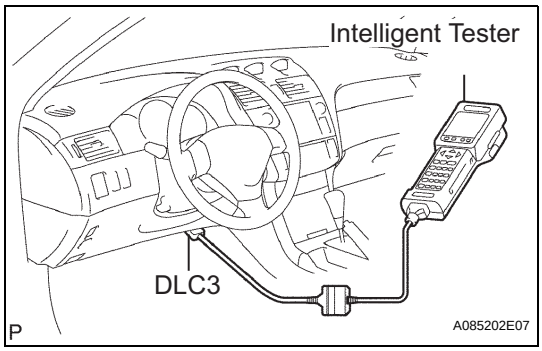
- If communication is normal when the tester is connected to another vehicle, inspect the DLC3 of the original vehicle.
- If communication is still impossible when the tester is connected to another vehicle, the problem is probably in the tester itself. Consult the Service Department listed in the tester's instruction manual.

3. INSPECT BATTERY VOLTAGE

Voltage:

11 to 14 V

If the voltage is below 11 V, replace the battery before proceeding.



DTC CHECK / CLEAR

1. CHECK DTC

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON.
(c) Read the DTCs by following the directions on the tester's screen.
HINT:
Refer to the intelligent tester operator's manual for further details.

2. CLEAR DTC

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON.
(c) Erase the DTCs by following the directions on the tester's screen.
HINT:
Refer to the intelligent tester operator's manual for further details.

DIAGNOSTIC TROUBLE CODE CHART

If a malfunction code is displayed during the DTC check, check the circuit listed for that code in the table below and then proceed to the page given for that circuit.

WIRELESS DOOR LOCK CONTROL SYSTEM

DTC No.	Detection Item	Trouble Area	See page
42	Wireless Door Lock Receiver Circuit Malfunction	1. Wire harness 2. Door control receiver 3. Instrument panel J/B assembly (multiplex network body ECU)	DL-45

ON-VEHICLE INSPECTION

1. NOTICE WHEN CHECKING

(a) Wireless door LOCK/UNLOCK function:
This wireless door lock control function operates only when the following 3 conditions are met.
(1) No key is inserted into the ignition key cylinder.
(2) All the doors are closed.
(3) The power door lock system is functioning normally.
HINT:
The UNLOCK function operates even when one of the doors is open.

(b) Remote panic function:
This wireless control function operates only when the following condition is met.
(1) The ignition switch is OFF.
HINT:
The key can be inserted. However the ignition switch must be in the OFF position.

(c) The wireless transmitter operational area differs depending on the situation.
(1) The operational area differs depending on the user, the way the transmitter is held and the location.
(2) In certain areas, the operational area is reduced due to the vehicle body's shape and the influence of the surroundings.
(3) Since the transmitter uses faint electric waves, the operational area may be shortened if noise or strong electric waves occur in the area where the transmitter is used. In some cases, the transmitter may not function.
(4) When the battery weakens, the operational area is reduced or the transmitter may not function.
HINT:
If the transmitter has been left in a place that is exposed to direct sunlight, such as on the instrument panel, the battery may weaken or other problems may occur.

2. CHECK WIRELESS DOOR LOCK CONTROL FUNCTIONS

HINT:
- The switches described below transmit signals and are built into the door control transmitter.
- The operational area must be taken into account while checks are being made.

(a) Put the vehicle in conditions that allow the wireless control functions to be operated.
(b) Check the basic functions.
(1) Check that all the doors lock when the LOCK switch is pressed.

(2) Check that only the driver side door unlocks when the UNLOCK switch is pressed once, and that the remaining doors unlock when the UNLOCK switch is pressed again within 3 seconds.

(c) Check the chattering prevention function.
(1) Check that pressing a switch will cause the switch's operation to occur only once. Also check that when the switch is held down, the operation is not repeated continuously. Then, make sure that when the switch is pressed in approximately 1 second intervals, the switch's operation occurs each time.

(d) Check the automatic locking function.
(1) Check that if all the doors are unlocked with the UNLOCK switch and none of the doors are opened or locked within approximately 30 seconds, the doors automatically relock.
(2) Check that if all of the doors are unlocked with the UNLOCK switch and a door is opened or locked within approximately 30 seconds, the automatic locking function does not operate.

(e) Check the switch operation fail-safe function.
(1) Check that the doors cannot be locked by a switch while the key is in the ignition key cylinder. However, this does not apply when the system is in recognition code registration mode.

(f) Check the operation stop function when a door is open or not completely closed.
(1) Check that if a door is open or not completely closed, the doors cannot be locked by the LOCK switch and the buzzer sounds for 10 seconds.

(g) Check the repeat function.
(1) Check that if the LOCK switch is pressed while the movement of the driver side door control knob (in the unlocked state) is restricted, the repeat function attempts to lock all of the doors again 1 second later.

(h) Check the answer-back function.
(1) When the LOCK switch is pressed, check that the lights flash once and the buzzer sounds once simultaneously with the locking of all the doors.
(2) When the UNLOCK switch is pressed once, check that the lights flash twice and the buzzer sounds twice simultaneously with the unlocking of the driver side door.
(3) When the UNLOCK switch is pressed again within 3 seconds, check that the lights flash twice and the buzzer sounds twice simultaneously with the unlocking of all the doors.

(i) Check the illuminated entry function.
(1) When all the doors are locked, pressing the UNLOCK switch causes the room light (when the light switch is in the DOOR position) to illuminate simultaneously with the unlock operation.
(2) Check that the room light turns off in approximately 15 seconds if doors have been not opened.

(j) Check the remote panic function.
(1) Check that if the PANIC switch is held down for 0.8 seconds or more, the theft deterrent alarm function sounds the horn, and flashes the headlights and taillights for 60 seconds. And, with the theft alarm function active, check if pressing any switch on the transmitter causes the horn to stop sounding and the headlights and taillights to stop flashing.

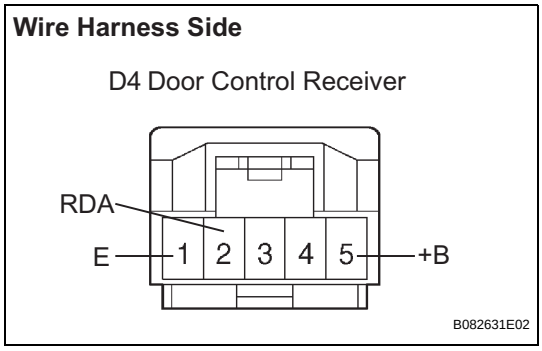
3. INSPECT DOOR CONTROL RECEIVER

(a) Disconnect the D4 receiver connector.

(b) Measure the voltage and resistance of the wire harness side connector.

Voltage and resistance:

Voltage



Tester Connection	Specified Condition
D4-5 (+B) - Body ground	10 to 14 V

Resistance

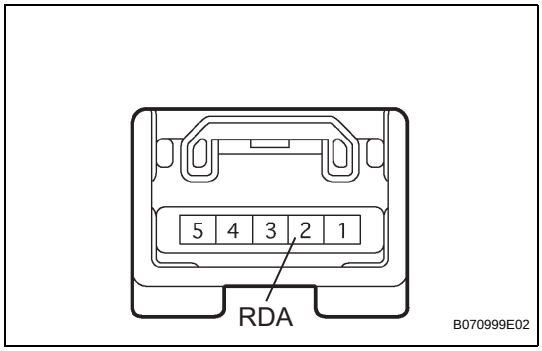
Tester Connection	Specified Condition
D4-1 (E) - Body ground	Below 1 Ω

If the result is not as specified, there may be a malfunction on the wire harness side.

(c) Reconnect the D4 receiver connector.

(d) Measure the voltage of the connector.

Voltage



Tester Connection	Condition	Specified Condition
D4-2 (RDA) - Body ground	Each transmitter switch 1: OFF → 2: ON (No key in ignition key cylinder and all doors closed)	1: Below 1 V → 2: Alternating 6 to 7 V and below 1 V

If the result is not as specified, there may be a malfunction on the receiver.

DL

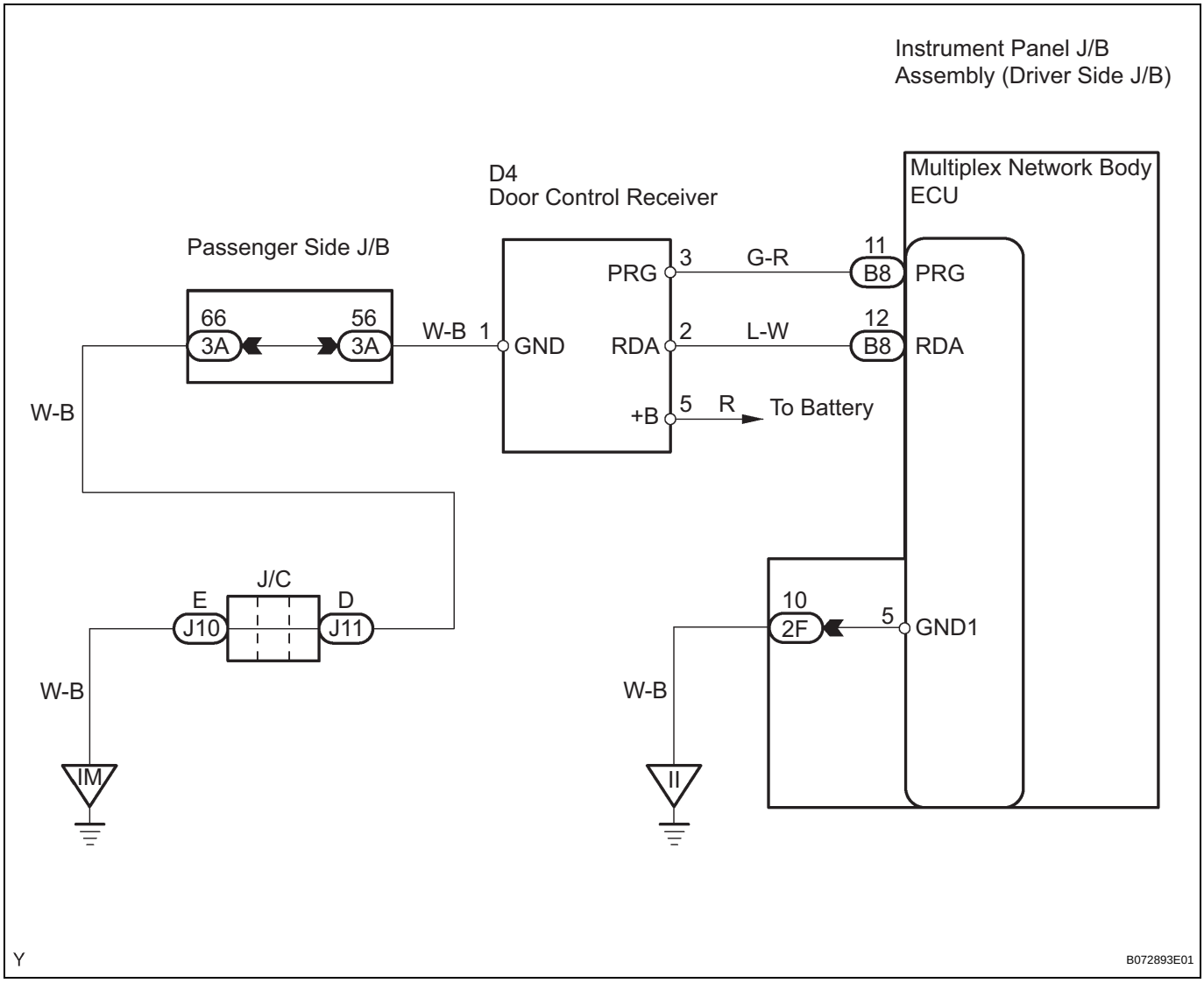
DTC	42	Wireless Door Lock Receiver Circuit Malfunction

DESCRIPTION

The door control receiver receives signals from the transmitter and sends these signals to the multiplex network body ECU. This DTC is output when, after the multiplex network body ECU outputs a PRG signal, a RDA signal is not input to the door control receiver within 1 second.

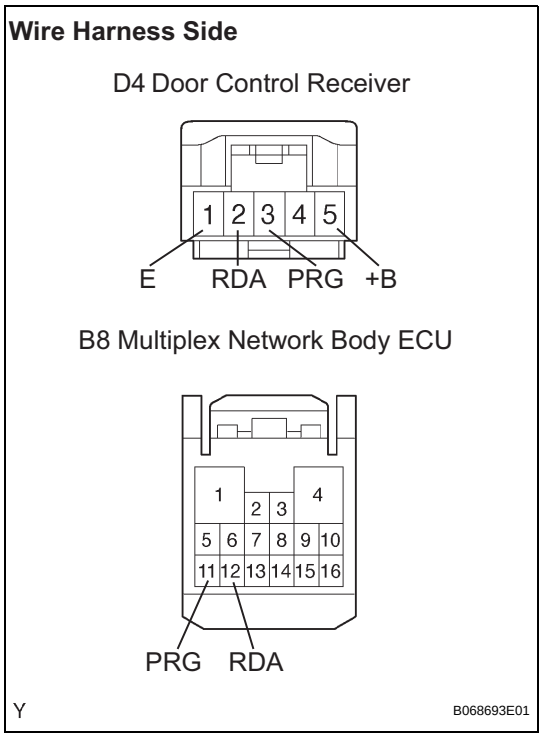
DTC No.	DTC Detection Condition	Trouble Area
42	In the diagnostic mode, applicable RDA signal is received within 1 second after PRG signal has been output from the multiplex network body ECU.	• Wire harness • Door control receiver • Instrument panel J/B assembly (multiplex network body ECU)

WIRING DIAGRAM



DL

1	CHECK WIRE HARNESS (CONTROL RECEIVER - MPX BODY ECU, BATTERY AND BODY GROUND)



(a) Disconnect the D4 receiver connector.
(b) Disconnect the B8 ECU connector.
(c) Measure the voltage and resistance of the wire harness side connectors.
Voltage and resistance:
Voltage

Tester Connection	Specified Condition
D4-5 (+B) - Body ground	10 to 14 V

Resistance

Tester Connection	Specified Condition
D4-2 (RDA) - B8-12 (RDA)	Below 1 Ω
D4-3 (PRG) - B8-11 (PRG)	Below 1 Ω
D4-1 (E) - Body ground	Below 1 Ω
D4-2 (RDA) or B8-12 (RDA) - Body ground	10 kΩ or higher
D4-3 (PRG) or B8-11 (PRG) - Body ground	10 kΩ or higher

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

OK

2	REPLACE DOOR CONTROL RECEIVER

(a) After replacing the door control receiver with a normally functioning receiver, check for DTC.
Result

Result	Proceed to
DTC is outputs.	A
No DTC is outputs.	B

B → **END**

A

REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY (MULTIPLEX NETWORK BODY ECU)

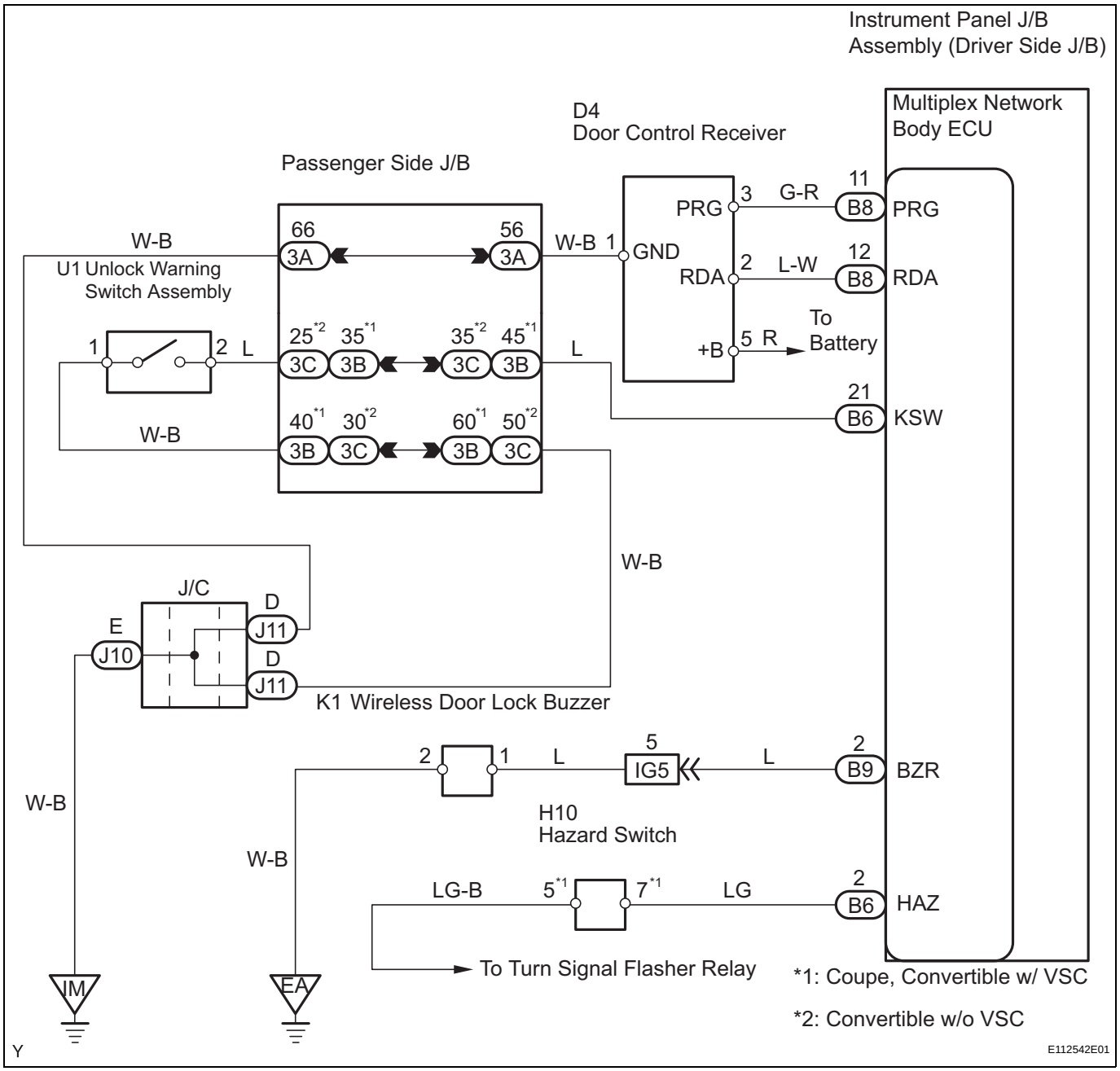
DL

Only Wireless Control Function is Inoperative

DESCRIPTION

The door control receiver receives signals from the transmitter and sends these signals to the multiplex network body ECU. The multiplex network body ECU then controls all the doors by sending LOCK/ UNLOCK signals to each door lock actuator, buzzer signals to the wireless door lock buzzer and headlight/taillight and hazard warning signals to the turn signal flasher relay.

WIRING DIAGRAM



DL

1	CHECK WIRELESS DOOR LOCK CONTROL FUNCTIONS

HINT:
See page DL-41

NG → **Go to step 2**

OK ↓

NORMAL

2	REPLACE TRANSMITTER BATTERY

(a) After replacing the transmitter battery with a new or functioning one, 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 → **Go to step 3**

OK ↓

END

3	CHECK WIRELESS DOOR LOCK FUNCTIONS (STANDARD OPERATION)

(a) Check standard LOCK/UNLOCK switch 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 (3.28 ft). The transmitter should be pointed directly at the door handle, i.e. at 90° angle to the vehicle body.

NG → **Go to step 4**

OK ↓

REPLACE DOOR CONTROL TRANSMITTER

4	CHECK WIRELESS DOOR LOCK BUZZER

(a) Check that the wireless door lock buzzer sounds (See page DL-41).

OK:

Wireless door lock buzzer sounds.

NG → **Go to step 18**

OK

5	SWITCH TO SELF-DIAGNOSTIC MODE

(a) Switch to self-diagnostic mode on the intelligent tester.
  (1) Connect the intelligent tester to the DLC3.
  (2) Turn the ignition switch ON and push the intelligent tester main switch ON.
  (3) Please refer to the intelligent tester operator's manual for further details.

(b) Switch to self-diagnostic mode by operating the ignition key cylinder.
  (1) Put the vehicle under the vehicle's initial condition (See page DL-41), insert the key into the ignition key cylinder and remove it (Procedure "A").
  (2) Within 5 seconds of removing the key (See procedure "A"), insert the key into the ignition key cylinder (ignition key OFF). Then turn the ignition switch to ON and return it to OFF (Procedure "B").
  (3) Within 30 seconds returning the ignition switch OFF again (See procedure "B"), perform the following 9 times: Turn the ignition switch to ON and return it to OFF (Procedure "C").

  NOTICE:

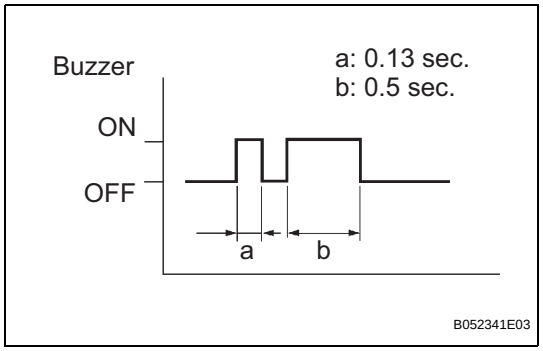
  If the change to self-diagnostic mode has failed, the system will return to normal mode.

  HINT:
  - Turning the ignition switch ON after step (See procedure "C") has been completed will end self-diagnostic mode.
  - Do not lock or unlock doors during self-diagnostic mode.

(c) Check that the system has switched to self-diagnostic mode by checking the wireless door lock buzzer sound. Compare the buzzer sound to the illustration on the left.

OK:

The buzzer sound should be the same as that shown the timing chart on the left.



NG → **Go to step 10**

OK

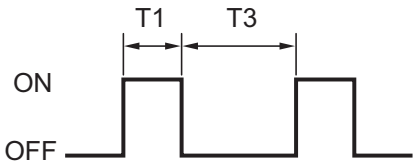
DL

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 listening to the wireless door lock buzzer.

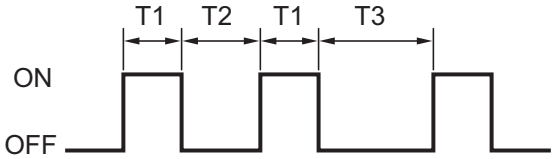
Normal Wave (LOCK Switch):

Buzzer Output



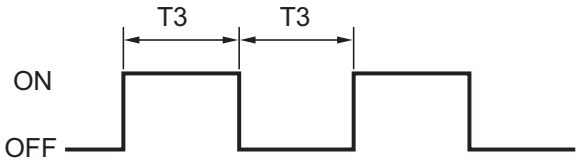
Normal Wave (UNLOCK Switch):

Buzzer Output



Normal Wave (LOCK/UNLOCK Switch):

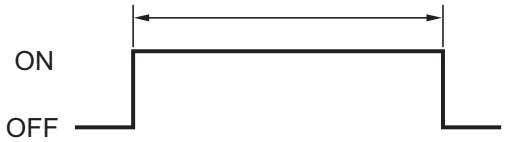
Buzzer Output



Mismatched Recognition Code:

Buzzer Output

Wave is being received



No Diagnosis Output:

Buzzer Output

T1: 0.13 seconds

T2: 0.25 seconds

T3: 0.5 seconds

N

B110076E08

DL

Result

Result	Proceed to
Normal waves (buzzer sound patterns) for LOCK, UNLOCK, TRUNK OPEN or PANIC switches are output.	A
Unmatching recognition code is output and buzzer is ON.	B
No diagnosis outputs are present and buzzer is OFF.	C

B	**REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY (MULTIPLEX NETWORK BODY ECU)**
C	**Go to step 8**

A

7	REGISTER RECOGNITION CODE

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

NG → **Go to step 9**

OK

NORMAL

8	CHECK RESPONSE OF DOOR CONTROL RECEIVER

(a) Prepare a new or functioning door control transmitter switch from the same vehicle model. Press and hold a switch on the transmitter and check that an unmatching recognition code is output.
OK:
Unmatching recognition code is output.

NG → **Go to step 14**

OK

REPLACE DOOR CONTROL TRANSMITTER

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 → **REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY (MULTIPLEX NETWORK BODY ECU)**

OK

NORMAL

DL

10 CONFIRM INPUT METHOD OF SELF-DIAGNOSTIC MODE

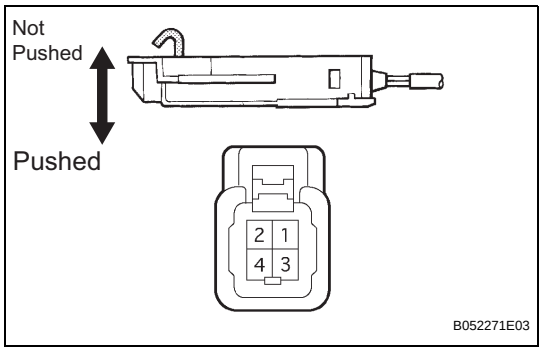
Result

Result	Proceed to
The method for changing the system to self-diagnostic mode works.	A
The method for changing the system to self-diagnostic mode does not work.	B

B → Go to step 5

A

11 INSPECT UNLOCK WARNING SWITCH ASSEMBLY



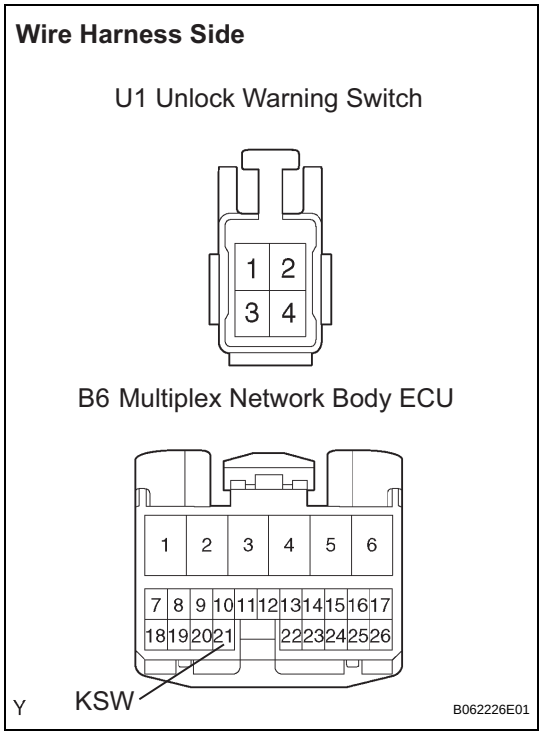
(a) Remove the switch.
(b) Measure the resistance of the switch.
Resistance

Tester Connection	Switch Condition	Specified Condition
1 - 2	Not pushed	10 kΩ or higher
1 - 2	Pushed	Below 1 Ω

NG → REPLACE UNLOCK WARNING SWITCH ASSEMBLY

OK

12 CHECK WIRE HARNESS (UNLOCK WARNING SWITCH - MPX BODY ECU AND BODY GROUND)



(a) Disconnect the U1 switch connector.
(b) Disconnect the B6 ECU connector.
(c) Measure the resistance of the wire harness side connectors.
Resistance

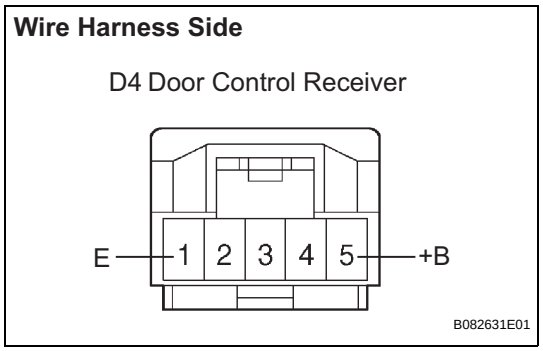
Tester Connection	Specified Condition
U1-2 - B6-21 (KSW)	Below 1 Ω
U1-1 - Body ground	Below 1 Ω

NG → REPAIR OR REPLACE HARNESS AND CONNECTOR

DL

OK

13 CHECK WIRE HARNESS (DOOR CONTROL RECEIVER - BATTERY AND BODY GROUND)



(a) Disconnect the D4 receiver connector.
(b) Measure the voltage and resistance of the wire harness side connector.

Voltage and resistance:

Voltage

Tester Connection	Specified Condition
D4-5 (+B) - Body ground	10 to 14 V

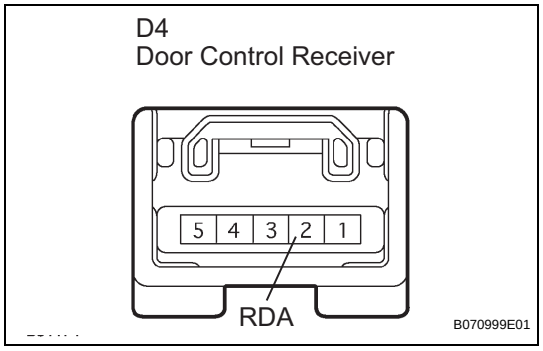
Resistance

Tester Connection	Specified Condition
D4-1 (E) - Body ground	Below 1 Ω

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

OK

14 CHECK DOOR CONTROL RECEIVER (OUTPUT)



(a) Measure the voltage of the connector.

Voltage

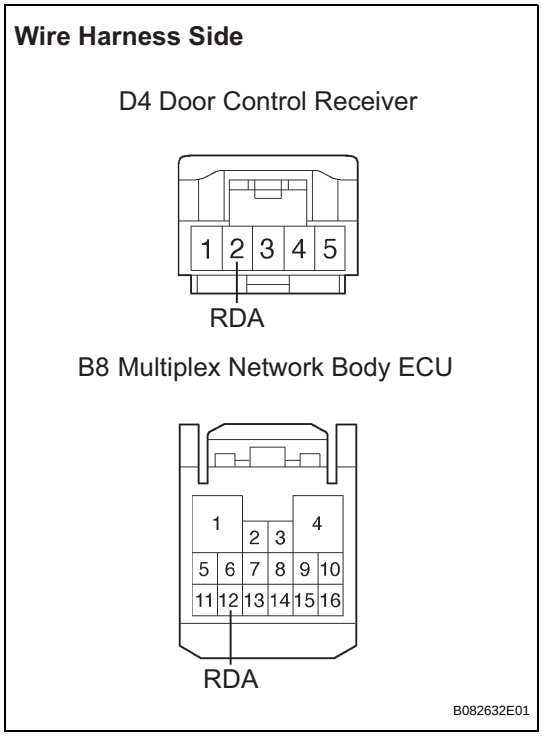
Tester Connection	Condition	Specified Condition
D4-2 (RDA) - Body ground	Each transmitter switch 1: OFF → 2: ON (No key in ignition key cylinder and all doors closed)	1: Below 1 V → 2: Alternating 6 to 7 V and below 1 V

NG → **Go to step 9**

OK

DL

15 CHECK WIRE HARNESS (DOOR CONTROL RECEIVER - MPX BODY ECU)



(a) Disconnect the D4 receiver connector.
(b) Disconnect the B8 ECU connector.
(c) Measure the resistance of the wire harness side connectors.

Resistance

Tester Connection	Specified Condition
D4-2 (RDA) - B8-12 (RDA)	Below 1 Ω
D4-2 (RDA) - Body ground	10 kΩ or higher
B8-12 (RDA) - Body ground	10 kΩ or higher

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

OK

16 CHECK WIRELESS DOOR LOCK CONTROL FUNCTIONS

Result

Result	Proceed to
Wireless door lock functions but hazard warning light answer-back does not occur.	A
Wireless door lock functions but wireless door lock buzzer answer-back does not occur.	B
Wireless door lock functions but hazard warning light answer-back and wireless door lock buzzer answer-back do not occur.	C

B → **Go to step 18**

C → **REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY (MULTIPLEX NETWORK BODY ECU)**

A

17 CHECK HAZARD WARNING LIGHTS

(a) Check that the hazard warning lights blink when the hazard warning signal switch is pressed.

OK:

Hazard warning lights blink.

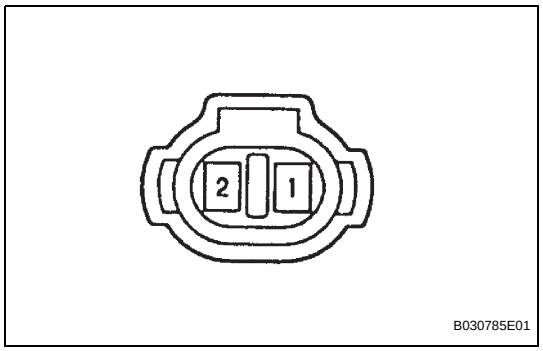
NG → **GO TO LIGHTING SYSTEM**

DL

OK

REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY (MULTIPLEX NETWORK BODY ECU)

18	INSPECT WIRELESS DOOR LOCK BUZZER



(a) Measure the resistance between terminals 1 and 2 of the buzzer.
Resistance:
Approximately 1 kΩ
NOTICE:
- **The buzzer circuit is built into the multiplex network body ECU, not into the buzzer itself.**
- **When battery voltage is directly applied to the buzzer, the buzzer does not sound.**

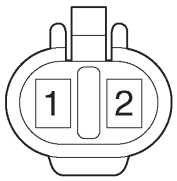
NG → **REPLACE WIRELESS DOOR LOCK BUZZER**

OK

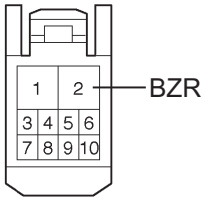
19	CHECK WIRE HARNESS (WIRELESS DOOR LOCK BUZZER - MPX BODY ECU AND BODY GROUND)

Wire Harness Side

K1 Wireless Door Lock Buzzer



B9 Multiplex Network Body ECU



(a) Disconnect the K1 buzzer connector.
(b) Disconnect the B9 ECU connector.
(c) Measure the resistance of the wire harness side connectors.
Resistance

Tester Connection	Specified Condition
K1-1 - B9-2 (BZR)	Below 1 Ω
K1-2 - Body ground	Below 1 Ω

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

OK

REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY (MULTIPLEX NETWORK BODY ECU)

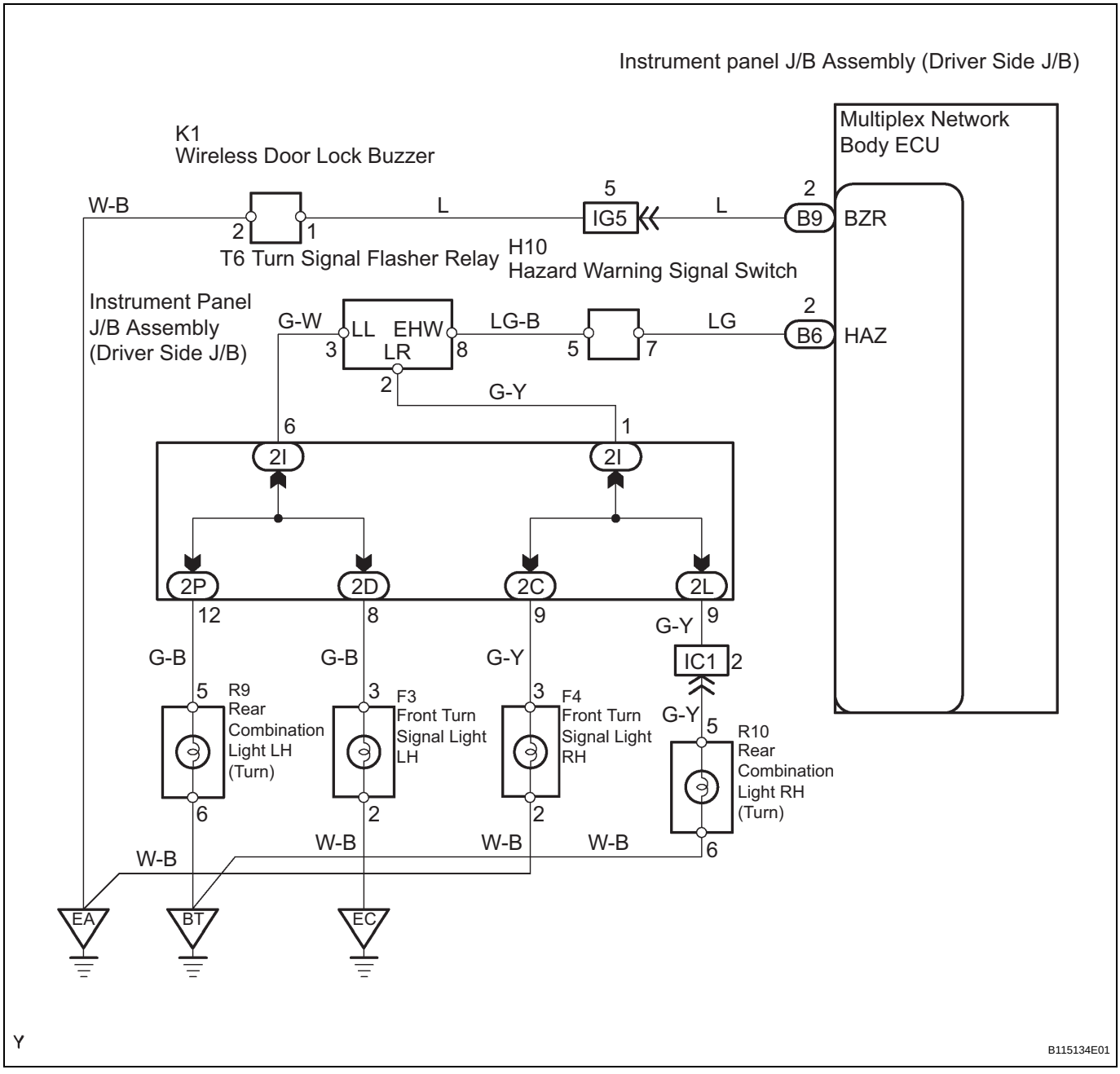
DL

No Answer-Back (Hazard Warning Light and Wireless Door Lock Buzzer)

DESCRIPTION

In some cases, wireless control functions are normal but the hazard warning light and wireless door lock buzzer answer-back functions are not. In such a case, the multiplex network body ECU's hazard warning light and wireless door lock buzzer signal outputs may be malfunctioning.

WIRING DIAGRAM



1 **CHECK WIRELESS DOOR LOCK FUNCTIONS**

(a) Check the wireless door lock functions by operating the transmitter switch.
HINT:
When the wireless door LOCK/UNLOCK operation can be performed, the transmitter signal is being properly input to the multiplex network body ECU.
Result

Result	Proceed To
Wireless door lock functions but hazard warning light answer-back does not occur.	A
Wireless door lock functions but wireless door lock buzzer answer-back does not occur.	B
Doors cannot be locked and unlocked with transmitter.	C

B → Go to step 3

C → GO TO FLOW CHART

A

2 **CHECK HAZARD WARNING LIGHTS**

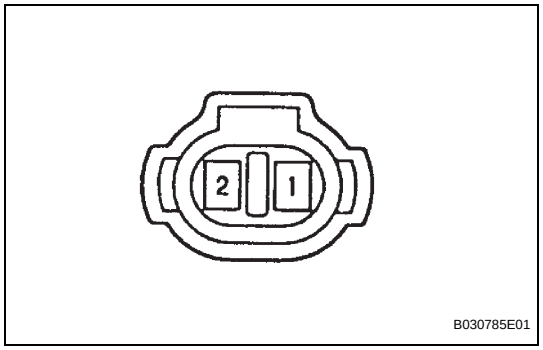
(a) Check that the hazard warning lights blink when the hazard warning signal switch is pressed.
OK:
Hazard warning lights blink.

NG → GO TO LIGHTING SYSTEM

OK

REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY (MULTIPLEX NETWORK BODY ECU)

3 **INSPECT WIRELESS DOOR LOCK BUZZER**



(a) Measure the resistance between terminals 1 and 2 of the buzzer.
Resistance:
Approximately 1 kΩ
NOTICE:
- **The buzzer circuit is built into the multiplex network body ECU, not into the buzzer itself.**
- **When battery voltage is directly applied to the buzzer, the buzzer does not sound.**

NG → REPLACE WIRELESS DOOR LOCK BUZZER

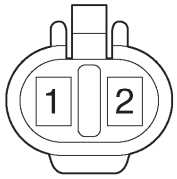
OK

DL

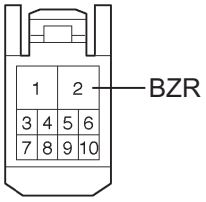
4	CHECK WIRE HARNESS (WIRELESS DOOR LOCK BUZZER - MPX BODY ECU AND BODY GROUND)

Wire Harness Side

K1 Wireless Door Lock Buzzer



B9 Multiplex Network Body ECU



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(a) Disconnect the K1 buzzer connector.
(b) Disconnect the B9 ECU connector.
(c) Measure the resistance of the wire harness side connectors.

Resistance

Tester Connection	Specified Condition
K1-1 - B9-2 (BZR)	Below 1 Ω
K1-2 - Body ground	Below 1 Ω

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

OK

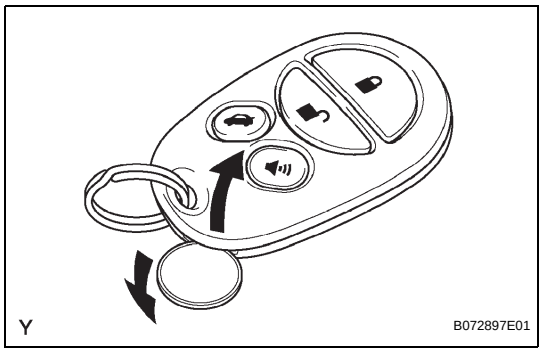
REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY (MULTIPLEX NETWORK BODY ECU)

REPLACEMENT

1. REMOVE TRANSMITTER BATTERY

NOTICE:

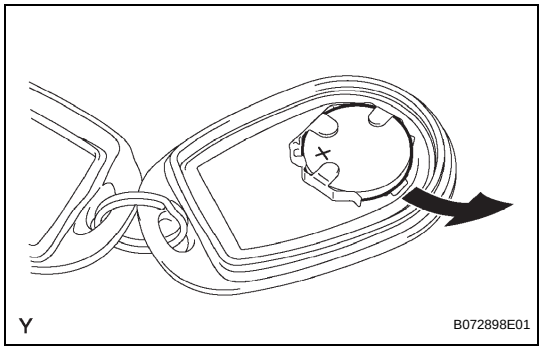
Take extra care when handling these precision electronic components.



(a) Using a coin or equivalent, pry apart the transmitter case.

NOTICE:

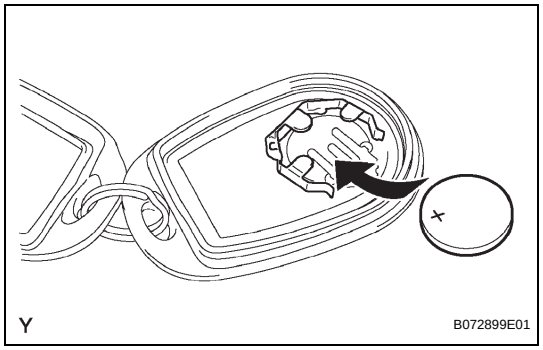
Do not forcibly pry apart the case.



(b) Remove the battery (lithium battery).

NOTICE:

- **Do not push the terminals with your finger.**
- **Do not forcibly pry up the battery (lithium battery). The terminals may become damaged.**
- **Do not touch the battery with wet hands. Water may cause rust.**
- **Do not touch or move any components inside the transmitter as it may cease to work.**



2. INSTALL TRANSMITTER BATTERY

(a) Install a new battery (lithium battery) with the positive (+) side up, as shown in the illustration.

NOTICE:

- **Be sure that the positive side and the negative side of the transmitter battery are matched up correctly.**
- **Be careful not to bend the transmitter battery electrode during insertion.**
- **Keep the transmitter case's interior free of dust and oil.**

(b) Install the case securely.

DL

DOOR CONTROL TRANSMITTER

ON-VEHICLE INSPECTION

1. INSPECT DOOR CONTROL TRANSMITTER

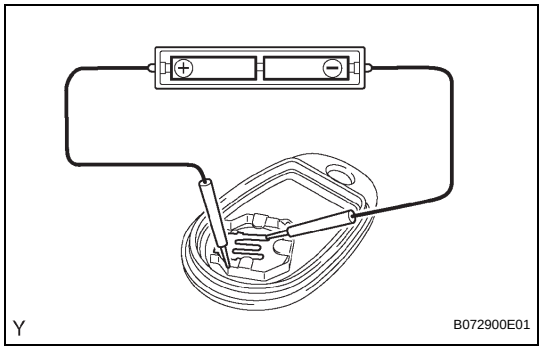
(a) Inspect operation of the transmitter.

(1) Remove the battery (lithium battery) from the transmitter (See page DL-60).

(2) Install a new or non-depleted battery (lithium battery).

HINT:

When a new or non-depleted transmitter battery is not available, connect 2 new 1.5 V batteries in series. Then connect leads to the batteries and use the leads to apply 3 V voltage to the transmitter, as shown in the illustration.



(3) From outside the vehicle, approximately 1 m (3.28 ft) from the driver side outside door handle, test the transmitter by pointing its key plate at the vehicle and pressing a transmitter switch.

OK:

The door lock can be operated via the transmitter.

HINT:

- The operational area differs depending on the user, the way the transmitter is held and the location.
- Since the transmitter uses faint electric waves, the operational area may be shortened if noise or strong electric waves occur in the area where the transmitter is used. In some cases, the transmitter may not function.

(4) Install the battery (lithium battery).

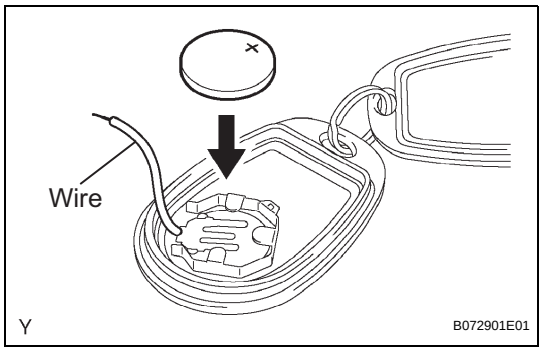
(b) Inspect the battery capacity.

HINT:

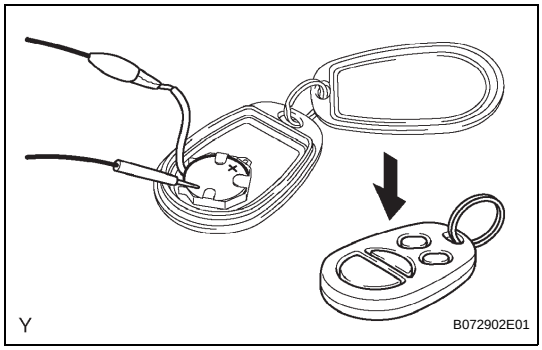
- When checking the amount of energy left in the battery (lithium battery), the battery must be checked while it is installed in the transmitter (a resistance of 1.2 kΩ is applied to the battery). When the battery energy is checked by itself (uninstalled), the voltage reading will be more than 2.5 V until the energy is depleted.
- If the transmitter is malfunctioning, the voltage reading of the energy left in the battery may be inaccurate.

(1) Remove the battery (lithium battery) from the transmitter (See page DL-60).

DL



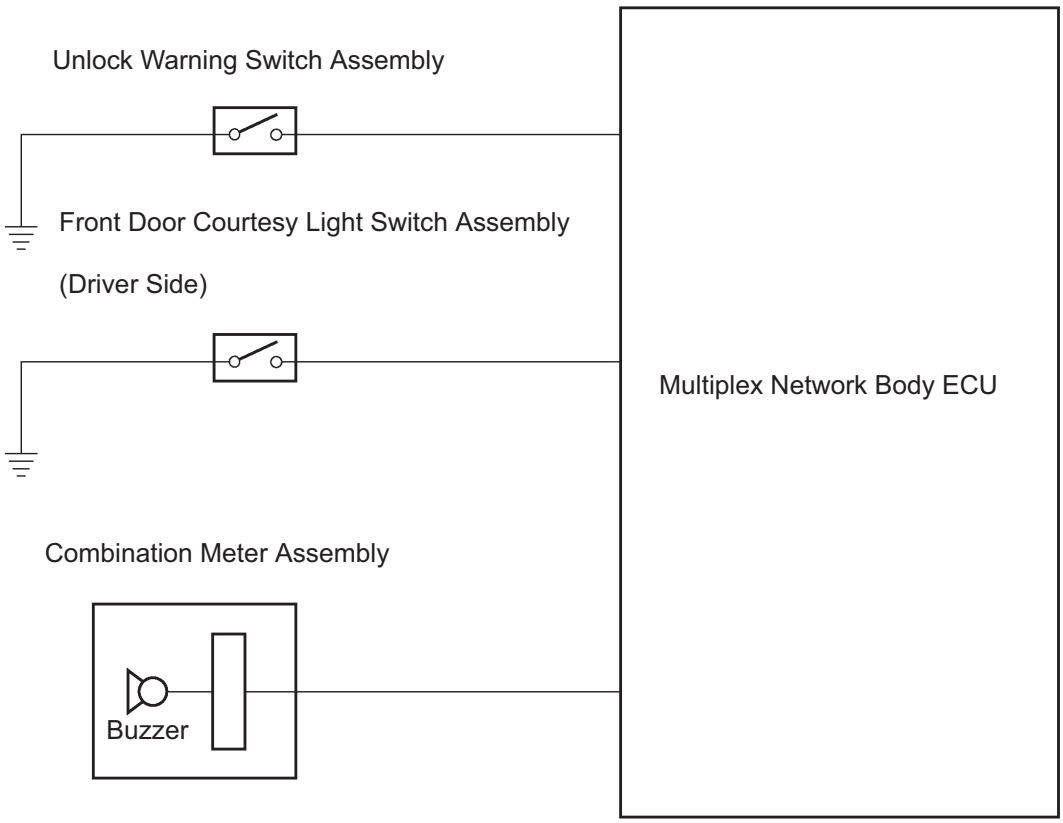
(2) Connect a wire to the negative (-) terminal of the transmitter and install the battery.



(3) Connect the tester's positive (+) lead to the positive (+) side of the battery (lithium battery) and the tester's negative (-) lead to the wire.
(4) Press one of the transmitter switches for approximately 1 second.
(5) Press the transmitter switch again to check the voltage.
Voltage:
2.2 V or higher
HINT:
- When the temperature of the battery is low, the inspection cannot be made correctly. When the outcome of the test is less than 2.2 V, conduct the test again after leaving the battery in a place with a temperature 18°C (64°F) for more than 30 minutes.
- Read the voltage immediately after the switch is pressed.
  When 0.8 seconds have passed after the switch is pressed, the automatic power-off function starts and resistance applied to the battery will cease. The voltage of the battery will be 2.5 V or more.
- Press the switch at least 3 times before reading the voltage.
  If the battery has just been returned to 18°C (64°F), the voltage may be unusually high for the first or second voltage reading.

(6) Disconnect the lead.
(7) Set the battery (lithium battery) in the transmitter.

SYSTEM DIAGRAM



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SYSTEM DESCRIPTION

1. KEY REMINDER WARNING SYSTEM DESCRIPTION

(a) When the driver side door is opened with the ignition switch in the ACC or LOCK position, this system sounds a buzzer to warn the driver that the ignition key has not been removed.

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:
Use this procedure to troubleshoot the key reminder warning system.

1 VEHICLE BROUGHT TO WORKSHOP

2 CUSTOMER PROBLEM ANALYSIS CHECK AND SYMPTOM CHECK

3 INSPECT BATTERY VOLTAGE

(a) Check the battery voltage.
Voltage:
11 to 14 V
If the voltage is below 11 V, recharge the battery before proceeding.

4 PROBLEM SYMPTOMS TABLE

(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

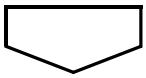
5 OVERALL ANALYSIS AND TROUBLESHOOTING

(a) On-vehicle inspection (See page DL-68)
(b) Terminals of ECU (See page DL-67)

6 ADJUST, REPAIR OR REPLACE

DL

7	**CONFIRMATION TEST**



END

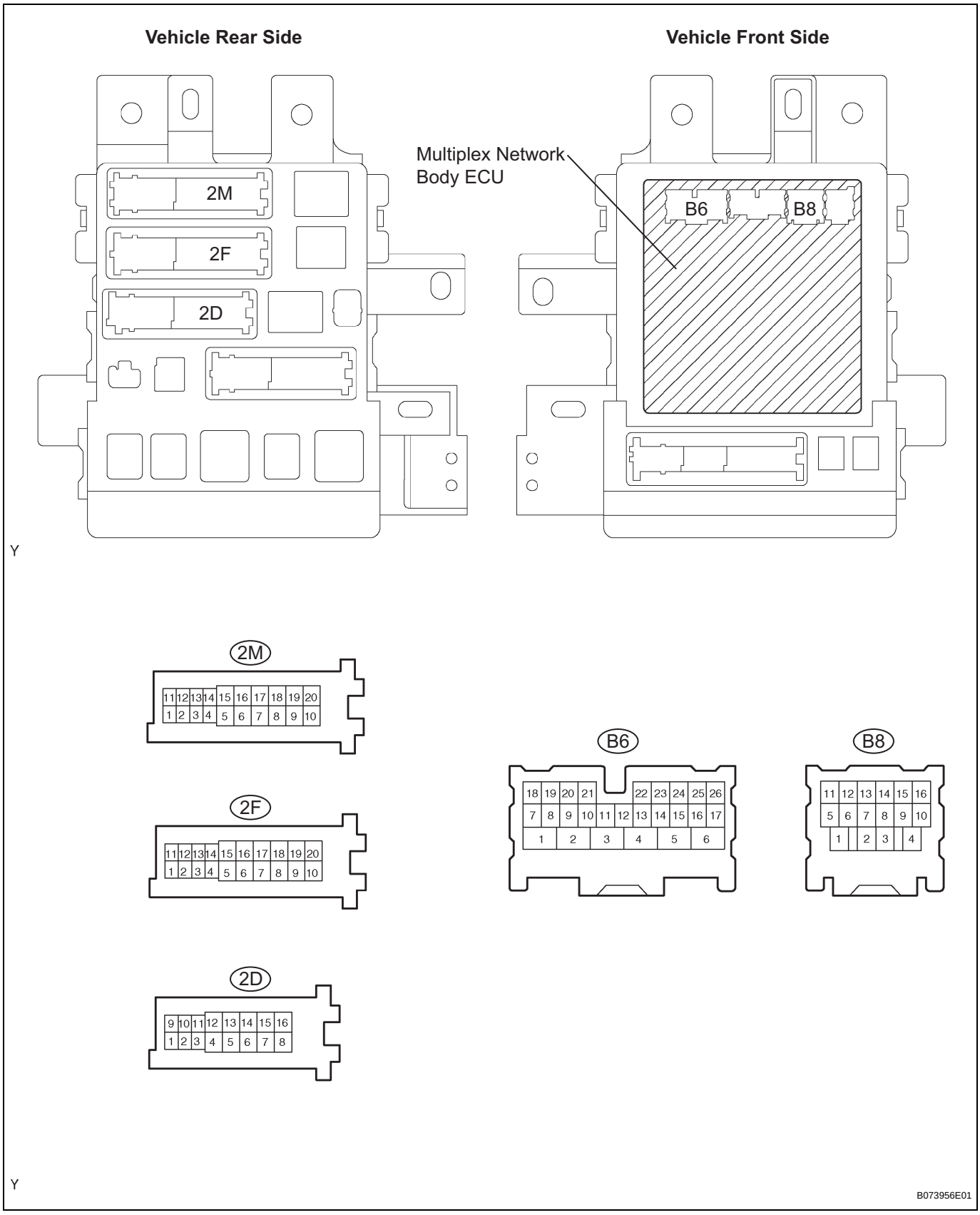
PROBLEM SYMPTOMS TABLE

KEY REMINDER WARNING SYSTEM

Symptom	Suspected area	See page
Key reminder buzzer does not sound	1. Unlock warning switch assembly	DL-70
	2. Front door courtesy light switch assembly (driver side)	DL-70
	3. Instrument panel J/B assembly (multiplex network body ECU)	DL-70
	4. Wire harness	DL-70
	5. Combination meter assembly	ME-45

TERMINALS OF ECU

1. CHECK INSTRUMENT PANEL J/B ASSEMBLY (MULTIPLEX NETWORK BODY ECU)



DL

(a) Disconnect the 2D, 2F and 2M J/B, B6 and B8 ECU connectors.
(b) Measure the voltage and resistance of the wire harness side connectors.

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
ALTB (2D-16) - Body ground	L-W - Body ground	+B (power system, generator system) power supply	Always	10 to 14 V
BECU (2F-1) - Body ground	W-R - Body ground	+B (BECU) power supply	Always	10 to 14 V
GND1 (2F-10) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω
GND2 (2M-9) - Body ground	W-B*1 - Body ground	Ground	Always	Below 1 Ω
GND2 (2M-9) - Body ground	BR*2 - Body ground	Ground	Always	Below 1 Ω
KSW (B6-21) - Body ground	L - Body ground	Key unlock warning switch input	1: No key in ignition key cylinder → 2: Key inserted	1: 10 kΩor higher → 2: Below 1 Ω
DCTY (B8-14) - Body ground	R-G - Body ground	Driver side courtesy switch input	Driver side door 1: Close → 2: Open	1: 10 kΩor higher → 2: Below 1 Ω

If the result is not as specified, there may be a malfunction on the wire harness side.

*1: Coupe

*2: Convertible

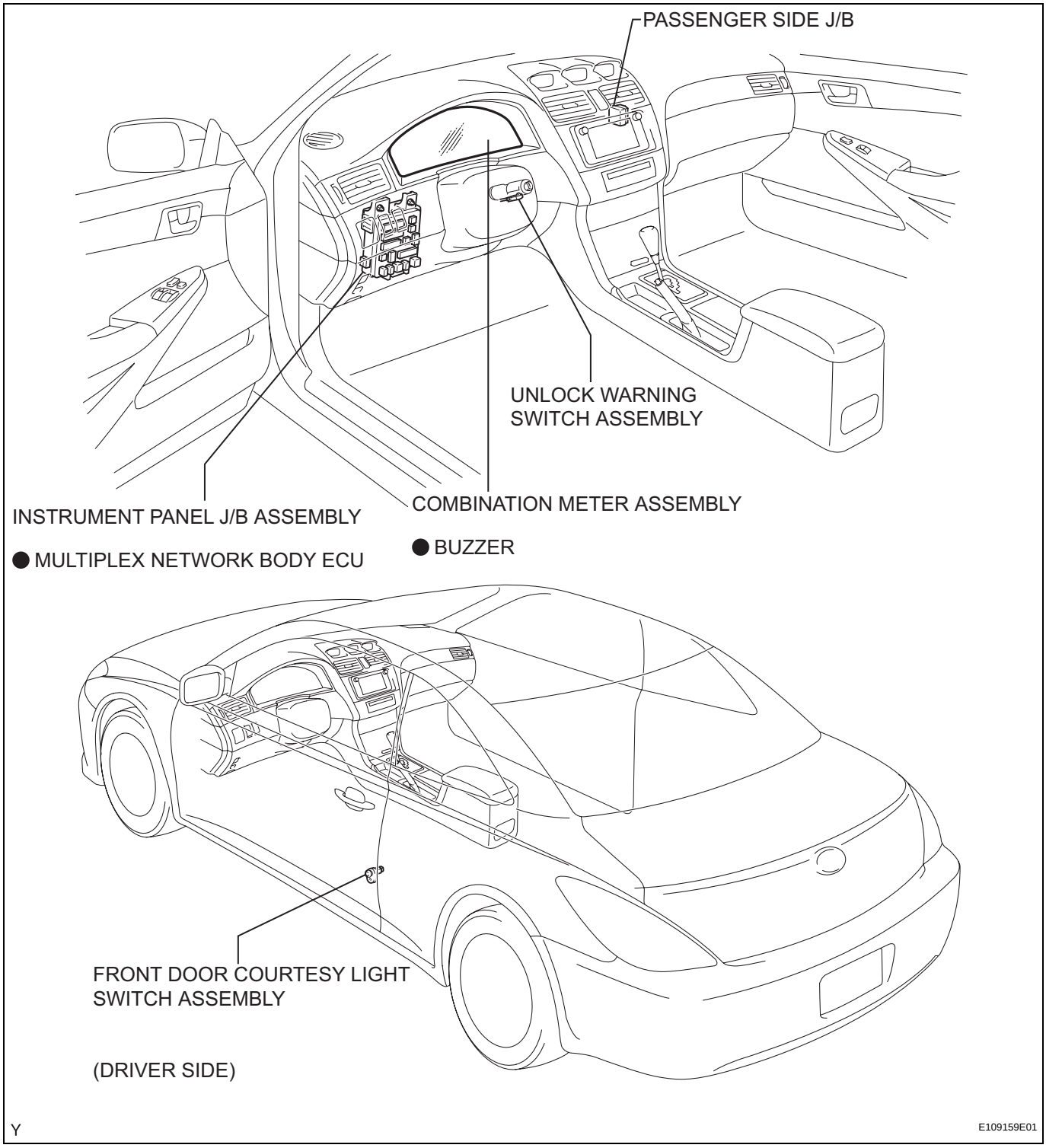
KEY REMINDER WARNING SYSTEM

PRECAUTION

NOTICE:
When disconnecting the negative (-) battery terminal, initialize the following system(s) after the terminal is reconnected.

System Name	See Procedure
Power Window Control System (Coupe)	WS-7
Sliding Roof System	RF-4

PARTS LOCATION



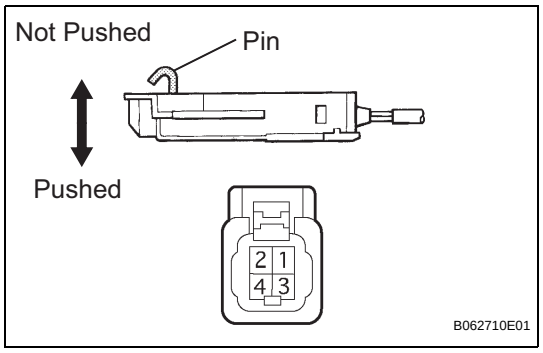
DL

ON-VEHICLE INSPECTION

1. CHECK KEY REMINDER WARNING SYSTEM

(a) Check that the key reminder buzzer sounds.
  (1) With the driver side door closed, insert the key into the ignition key cylinder and then turn the key to the LOCK or ACC position.
  (2) Check that the buzzer sounds intermittently if the driver side door is opened.

(b) Check that the key reminder buzzer stops.
  (1) Check that the buzzer stops sounding if any of the following operations is performed while the buzzer is sounding:
    - Close the driver side door (front door courtesy light switch is off).
    - Turn the ignition switch ON.
    - Pull out the key from the ignition key cylinder.



2. INSPECT UNLOCK WARNING SWITCH ASSEMBLY

(a) Remove the unlock warning switch.

(b) Measure the resistance of the switch.

Resistance

Tester Connection	Switch Condition	Specified Condition
1 - 2	Not pushed	10 kΩ or higher
1 - 2	Pushed	Below 1 Ω

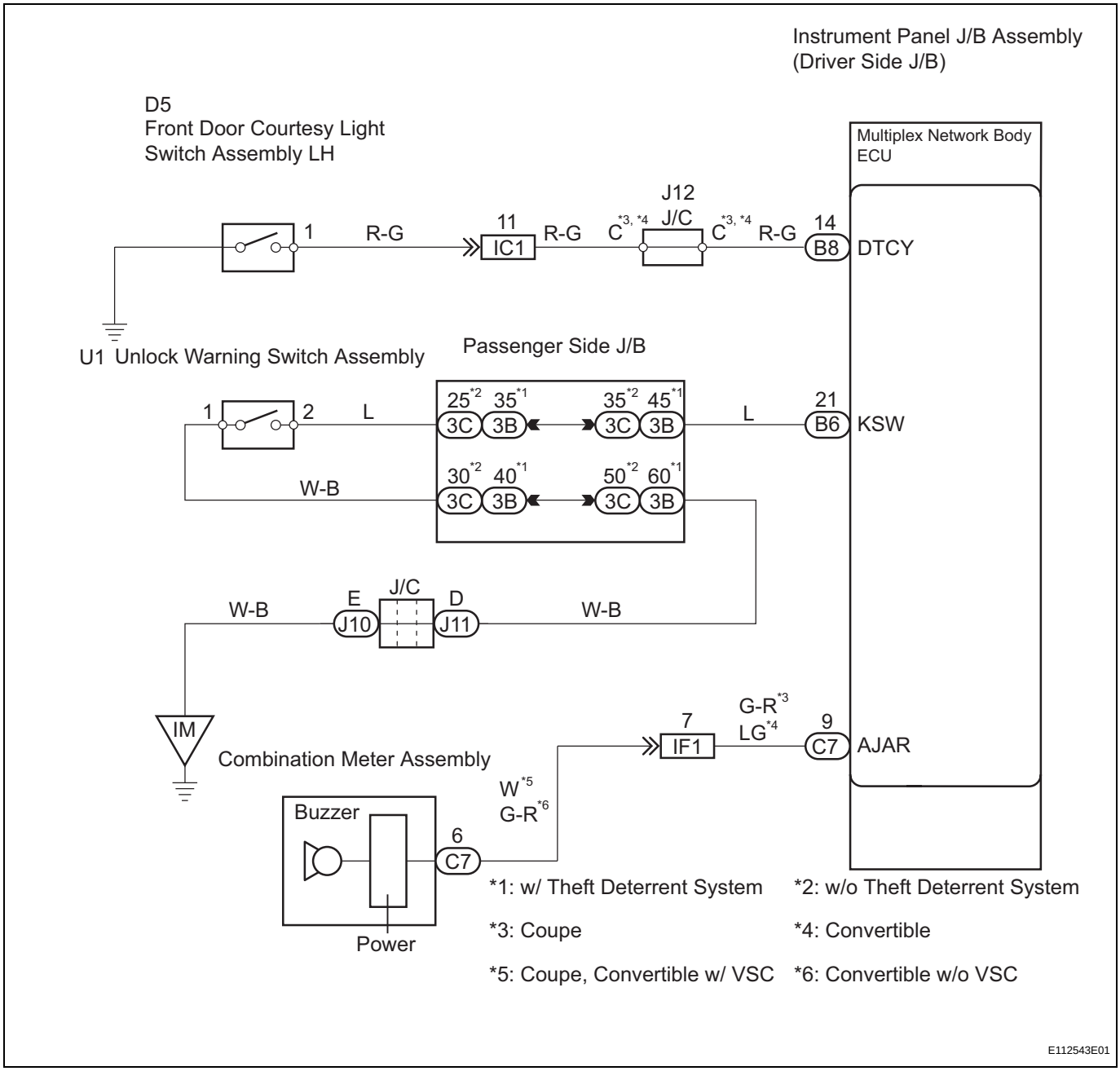
If the result is not as specified, replace the switch assembly.

Key Reminder Buzzer does not Sound

DESCRIPTION

The key reminder buzzer sounds when the driver side door is opened while the ignition switch is OFF and the key is in the ignition key cylinder. The key reminder buzzer is activated when the multiplex network body ECU sends a key switch signal and driver side courtesy switch signal to the combination meter.

WIRING DIAGRAM



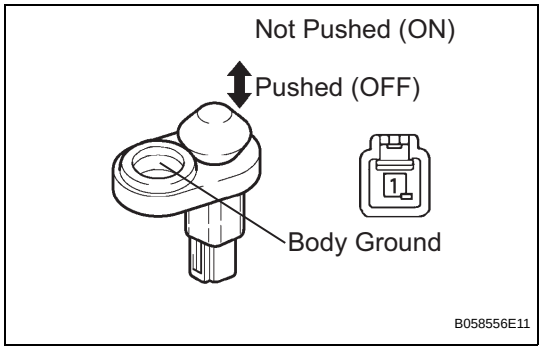
DL

1	CHECK FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY (DRIVER SIDE)

(a) Move the room light switch to the DOOR position and open the driver side door. Then check that the room light turns ON.
OK:
Room light turns ON.

OK	Go to step 4
NG	Go to step 2

2	INSPECT FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY (DRIVER SIDE)



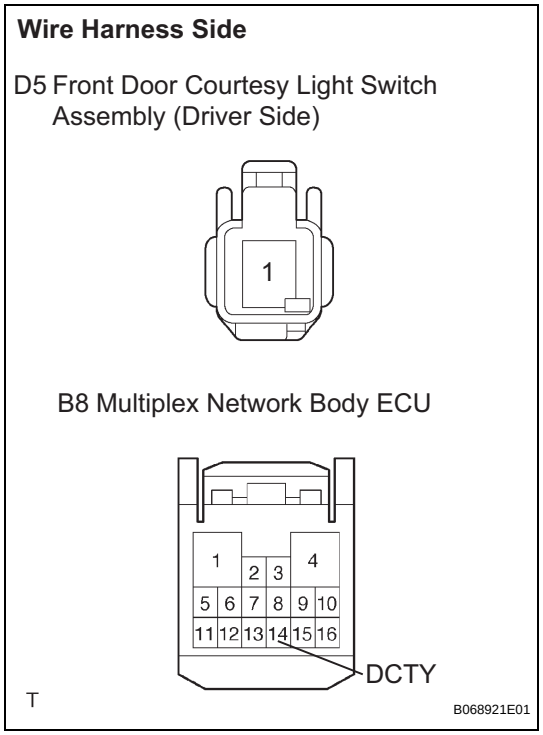
(a) Remove the courtesy light switch.
(b) Measure the resistance of the switch.
Resistance

Tester Connection	Switch Condition	Specified Condition
1 - Body ground	Not pushed (ON)	Below 1 Ω
1 - Body ground	Pushed (OFF)	10 kΩ or higher

NG	REPLACE FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY (DRIVER SIDE)

OK

3	CHECK WIRE HARNESS (COURTESY LIGHT SWITCH LH - MULTIPLEX NETWORK BODY ECU)



(a) Disconnect the D5 switch connector.
(b) Disconnect the B8 ECU connector.
(c) Measure the resistance of the wire harness side connectors.
Resistance

Tester Connection	Specified Condition
D5-1 - B8-14 (DCTY)	Below 1 Ω

NG	REPAIR OR REPLACE HARNESS AND CONNECTOR

DL

OK

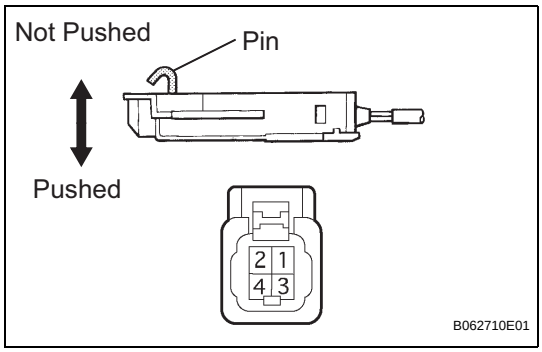
4	CHECK BUZZER (COMBINATION METER)

(a) Check that the buzzer built into the combination meter sound (See page ME-45).
OK:
Buzzer sounds.

NG → **REPLACE COMBINATION METER ASSEMBLY**

OK

5	INSPECT UNLOCK WARNING SWITCH ASSEMBLY



(a) Remove the unlock warning switch.
(b) Measure the resistance of the switch.
Resistance

Tester Connection	Switch Condition	Specified Condition
1 - 2	Not pushed	10 kΩ or higher
1 - 2	Pushed	Below 1 Ω

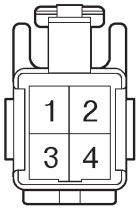
NG → **REPLACE UNLOCK WARNING SWITCH ASSEMBLY**

OK

6	CHECK WIRE HARNESS (UNLOCK WARNING SWITCH - MPX BODY ECU AND BODY GROUND)

Wire Harness Side

U1 Unlock Warning Switch Assembly



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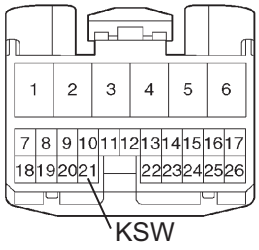
B6 Multiplex Network Body ECU



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(a) Disconnect the U1 switch connector.
(b) Disconnect the B6 ECU connector.
(c) Measure the resistance of the wire harness side connectors.

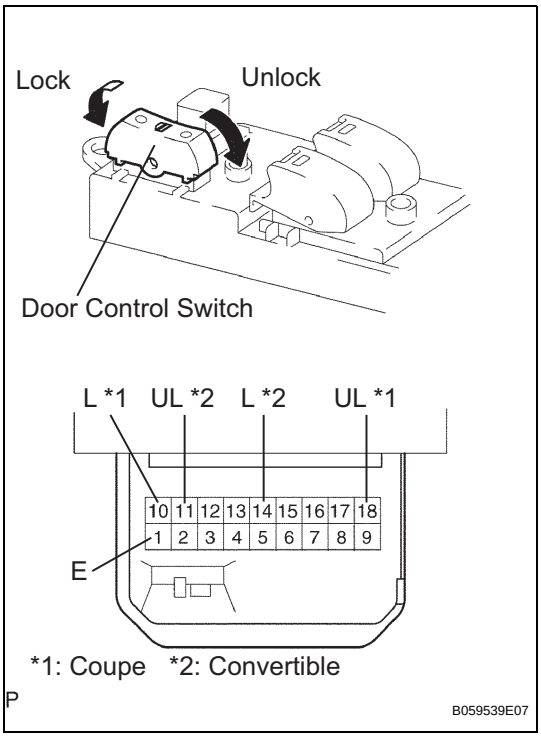
Resistance

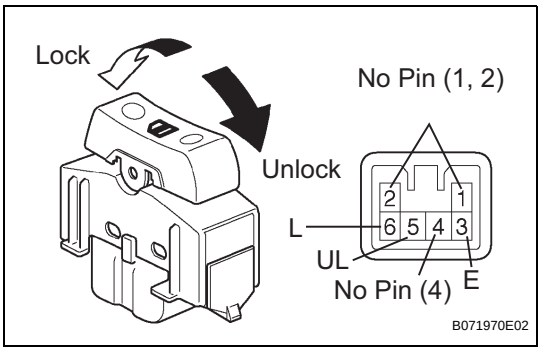
Tester Connection	Specified Condition
U1-2 - B6-21 (KSW)	Below 1 Ω
U1-1 - Body ground	Below 1 Ω

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

OK

REPLACE FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY (DRIVER SIDE)





DOOR CONTROL SWITCH

ON-VEHICLE INSPECTION

1. INSPECT POWER WINDOW REGULATOR MASTER SWITCH ASSEMBLY

(a) Measure the resistance of the door control switch.

Resistance

Tester Connection	Switch Condition	Specified Condition
1 (E) - 10*1 (L) 1 (E) - 14*2 (L)	Lock	Below 1 Ω
1 (E) - 10*1 (L) 1 (E) - 14*2 (L) 1 (E) - 18*1 (UL) 1 (E) - 11*2 (UL)	OFF	10 kΩ or higher
1 (E) - 18*1 (UL) 1 (E) - 11*2 (UL)	Unlock	Below 1 Ω

If the result is not as specified, replace the switch assembly.

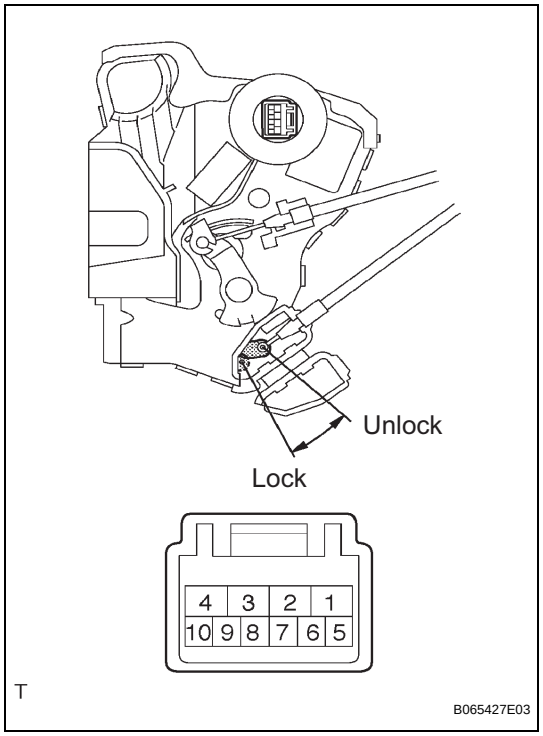
2. INSPECT DOOR CONTROL SWITCH ASSEMBLY

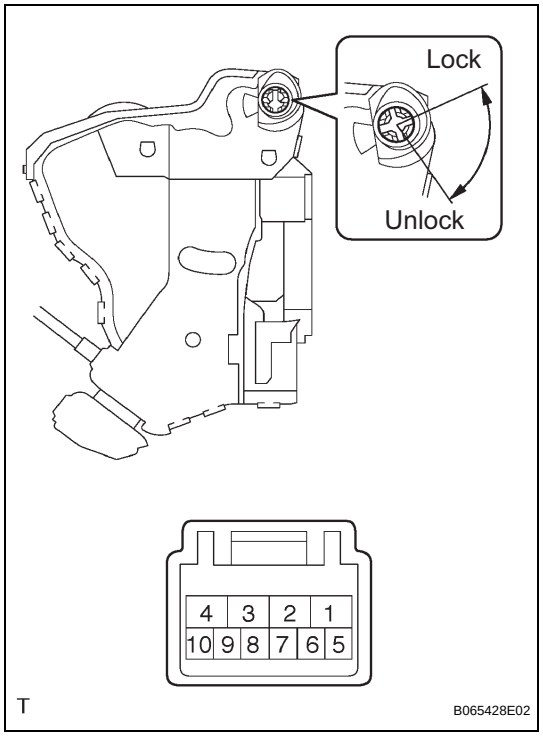
(a) Measure the resistance of the switch.

Standard

Tester Connection	Switch Condition	Specified Condition
3 (E) - 6 (L)	Lock	Below 1 Ω
3 (E) - 5 (UL) 3 (E) - 6 (L)	OFF	10 kΩ or higher
3 (E) - 5 (UL)	Unlock	Below 1 Ω

If the result is not as specified, replace the switch assembly.





FRONT DOOR LOCK

ON-VEHICLE INSPECTION

1. INSPECT FRONT DOOR LOCK ASSEMBLY LH

(a) Apply battery voltage to the door lock and check operation of the door lock motor.
OK

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 4 Battery negative (-) → Terminal 1	Lock
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 4	Unlock

If the result is not as specified, replace the door lock assembly.

(b) Measure the resistance of the position switch.
Resistance

Tester Connection	Door Lock Condition	Specified Condition
7 - 8	Lock	10 kΩ or higher
7 - 8	Unlock	Below 1 Ω

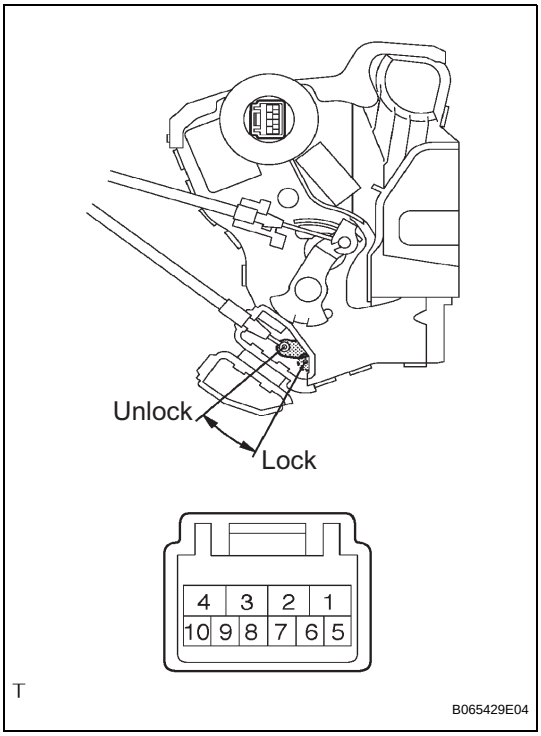
If the result is not as specified, replace the door lock assembly.

(c) Measure the resistance of the door lock and unlock switch.
Resistance

Tester Connection	Door Lock Condition	Specified Condition
7 - 9	Lock	Below 1 Ω
7 - 9, 7 - 10	OFF	10 kΩ or higher
7 - 10	Unlock	Below 1 Ω

If the result is not as specified, replace the door lock assembly.

DL



2. INSPECT FRONT DOOR LOCK ASSEMBLY RH

(a) Apply battery voltage to the door lock and check operation of the door lock motor.

OK

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 4 Battery negative (-) → Terminal 1	Lock
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 4	Unlock

If the result is not as specified, replace the door lock assembly.

(b) Measure the resistance of the position switch.

Resistance

Tester Connection	Door Lock Condition	Specified Condition
7 - 8	Lock	10 kΩ or higher
7 - 8	Unlock	Below 1 Ω

If the result is not as specified, replace the door lock assembly.