POWER DOOR LOCK CONTROL SYSTEM

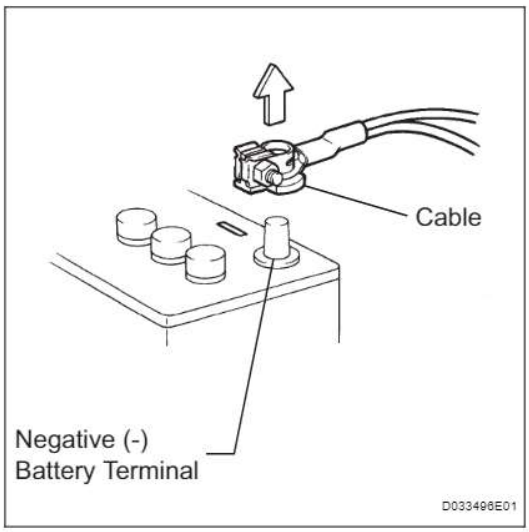
PRECAUTION

1. DISCONNECT AND RECONNECT CABLE OF NEGATIVE BATTERY TERMINAL

NOTICE:

When disconnecting the cable from the negative (-) battery terminal, initialize the following systems after the cable is reconnected.

System Name	See procedure
METER / GAUGE SYSTEM	See pageME-10



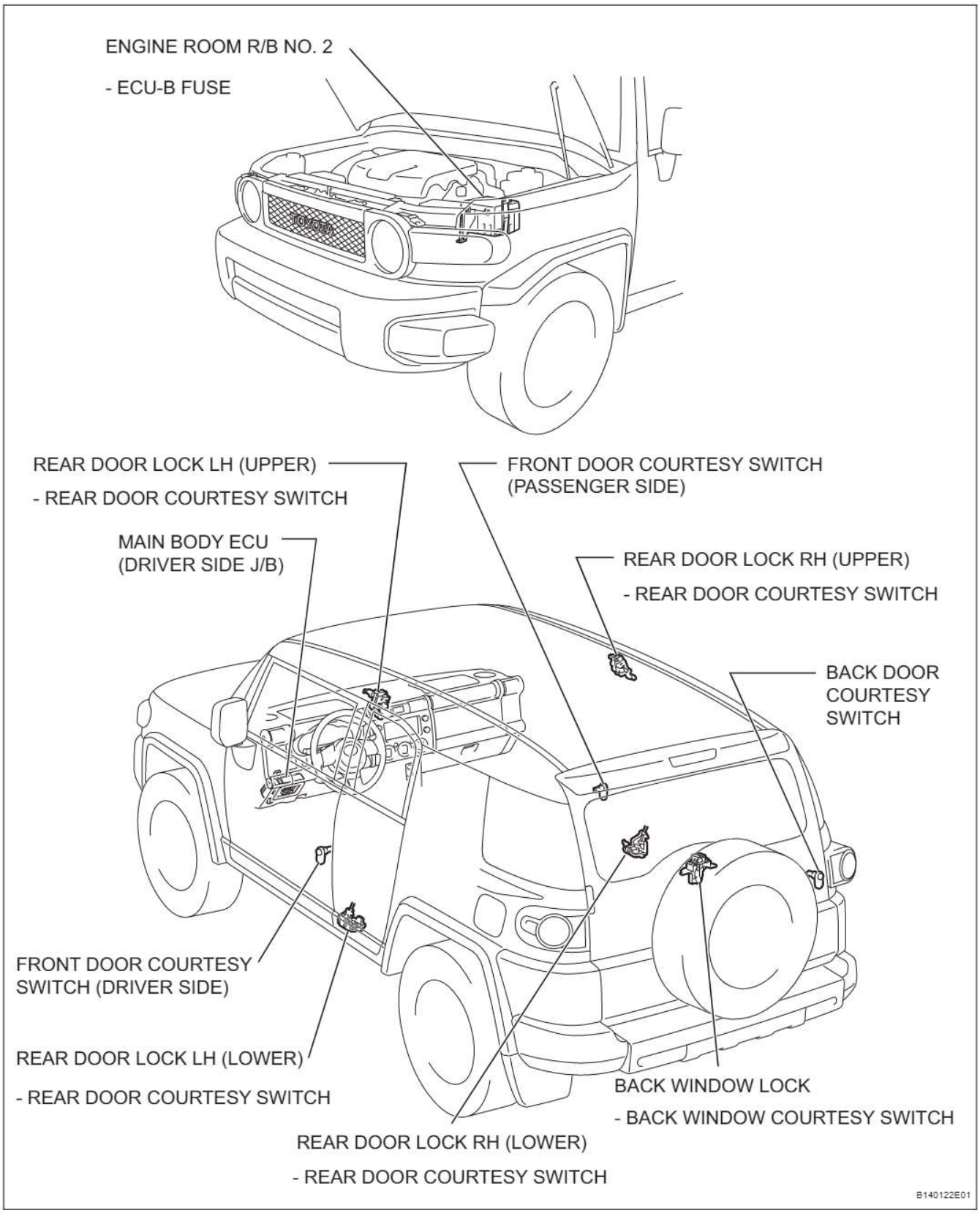
(a) Before performing electronic work, disconnect the cable from the negative (-) battery terminal in order to prevent it from shorting and burning out.

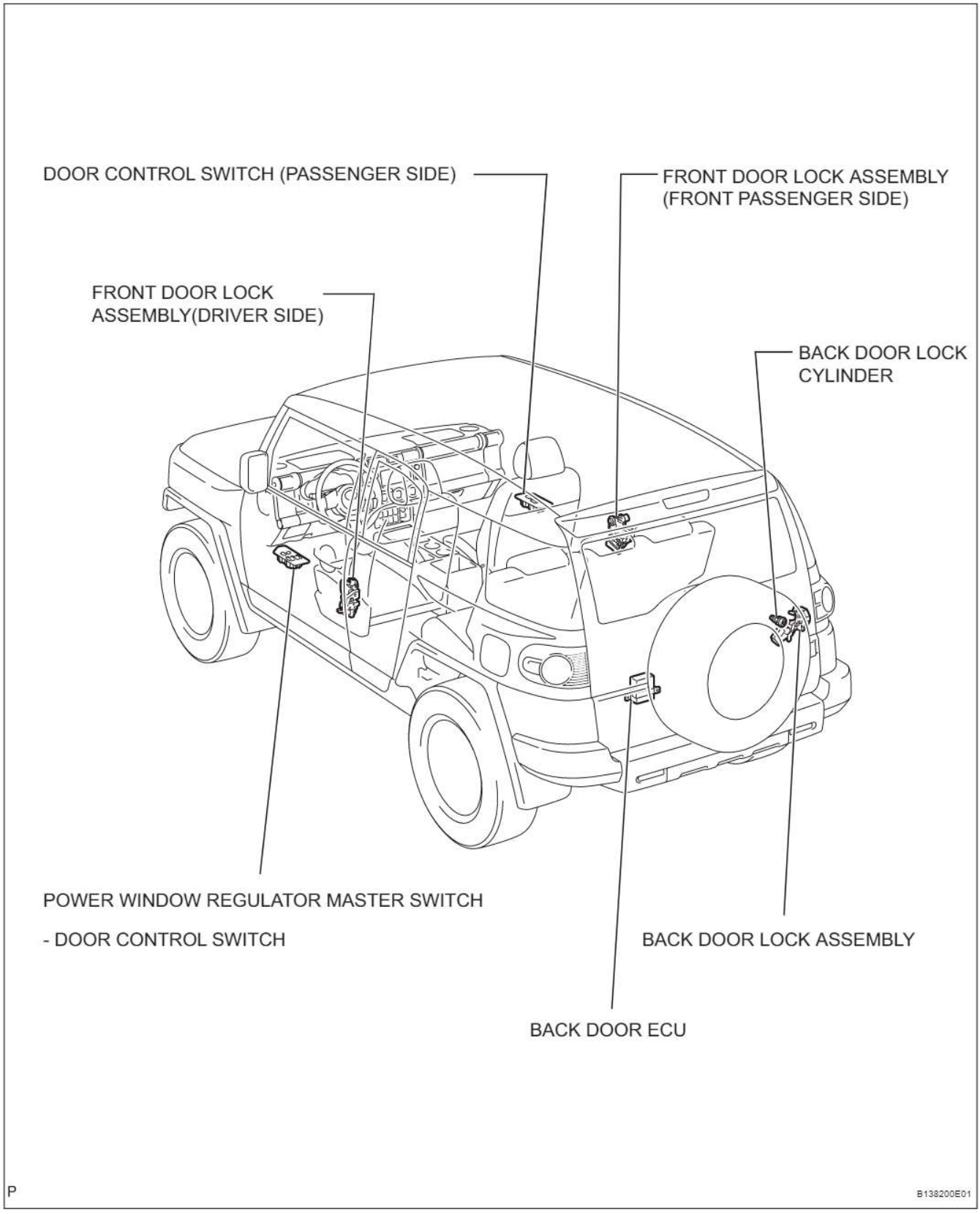
(b) Before disconnecting and reconnecting the battery cable, turn the ignition switch OFF and the headlight dimmer switch OFF. Then loosen the terminal nut completely. Do not damage the cable or terminal.

(c) When the battery cable is disconnected, the clock and radio settings and stored DTCs are erased. Therefore, before disconnecting the battery cable, make a notes of them.

DL

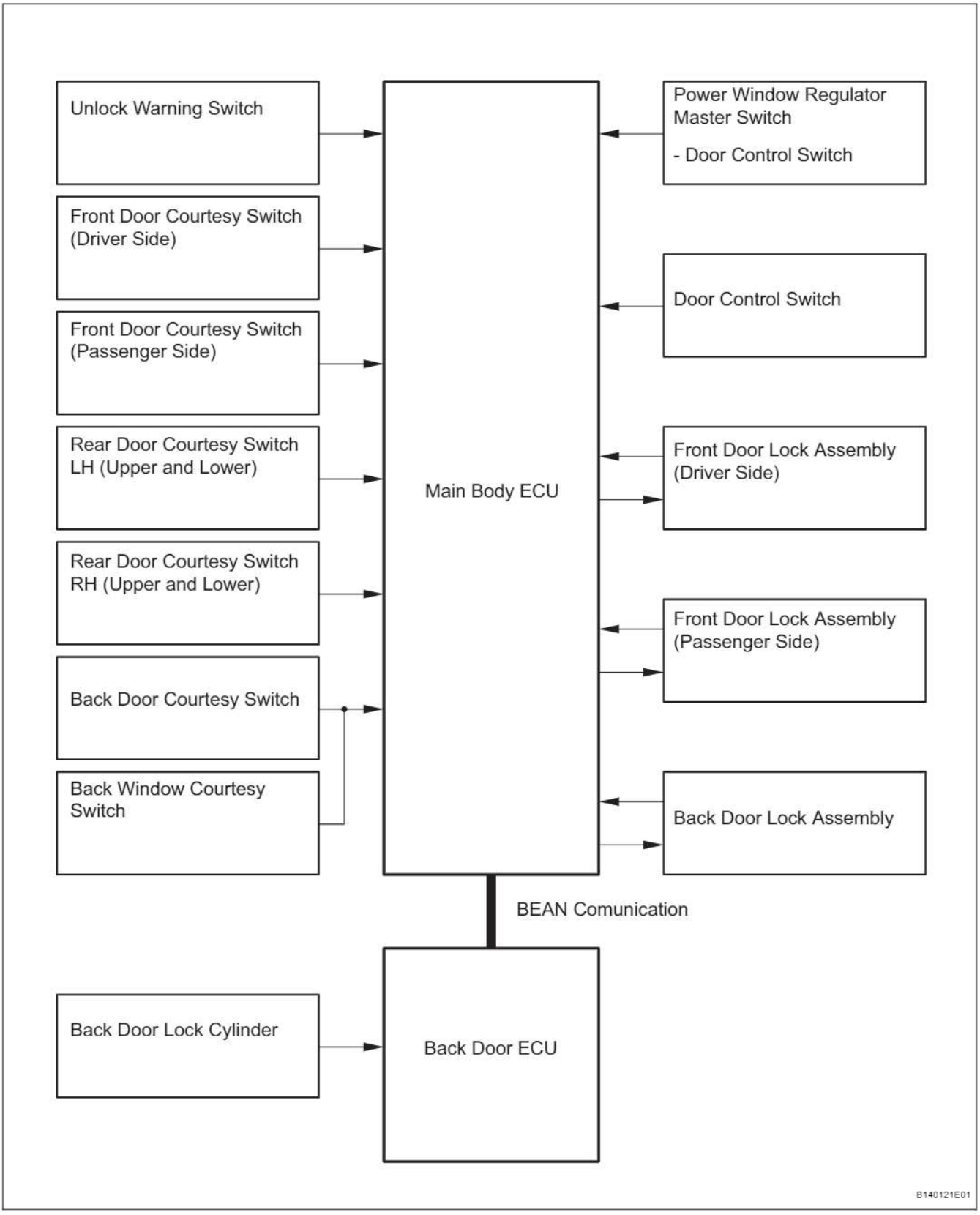
PARTS LOCATION




DOOR CONTROL SWITCH (PASSENGER SIDE)
FRONT DOOR LOCK ASSEMBLY (FRONT PASSENGER SIDE)
FRONT DOOR LOCK ASSEMBLY(DRIVER SIDE)
BACK DOOR LOCK CYLINDER
POWER WINDOW REGULATOR MASTER SWITCH
- DOOR CONTROL SWITCH
BACK DOOR LOCK ASSEMBLY
BACK DOOR ECU
P
B138200E01

DL

SYSTEM DIAGRAM



SYSTEM DESCRIPTION

1. POWER DOOR LOCK CONTROL SYSTEM DESCRIPTION

The power door lock system locks / unlocks all the doors simultaneously.

The door control switch of the power window regulator master switch or door control switch on the front passenger side sends lock / unlock request signals to the main body ECU. Then, the main body ECU sends these requests to the lock motors in each door to lock / unlock all the doors simultaneously. Operating the driver side door, front passenger side door, or back door lock using a key sends lock / unlock request signals to the main body ECU.

2. FUNCTION OF MAIN COMPONENTS

Component	Function
Power window regulator master switch (Door control switch)	Locks / unlocks all doors
Door control switch (Front passenger side)	Locks / unlocks all doors
Door courtesy switch	• One for each door • Detects door status (open or closed) and outputs data to main body ECU • Turns on when door is open and off when door is closed
Driver side door lock Front passenger side door lock	• Built-in motor locks / unlocks door • Built-in door lock and unlock switch (key-linked) detects door lock status (locked or unlocked) and outputs data to main body ECU • Built-in unlock detection switch detects door status (locked or unlocked) and outputs data to main body ECU. This switch turns off when door is locked and on when door is unlocked.
Back door lock	• Built-in motor locks / unlocks door • Built-in unlock detection switch detects door status (locked or unlocked) and outputs data to main body ECU. This switch turns off when door is locked and on when door is unlocked.
Back door lock cylinder	Built-in door lock and unlock switch (key-linked) detects door lock status (locked or unlocked) and outputs data to back door ECU

3. DESCRIPTION

This system is controlled by the main body ECU. The main body ECU outputs signals to each door lock motor. The door lock control system in the vehicle has the following functions:

Function	Outline
Manual lock and unlock function	Locks / unlocks all doors by door control switch (for front driver door side) and door control switch (for front passenger side) lock operation (manual operation)
Key-linked lock and unlock function	Linked with key cylinder. Locks / unlocks all doors when lock / unlock operation is possible.
Key-linked 2-step unlock	Unlocks only driver door by turning key cylinder once and unlocks other doors by turning it twice.
Key lock-in prevention function	When key is inserted in ignition key cylinder and door lock operation is performed, all doors are unlocked.
All doors lock with transmitter	Pressing transmitter's LOCK switch locks all doors
All doors unlock with transmitter	Pressing transmitter's UNLOCK switch unlocks all doors

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- Use these procedures to troubleshoot the power door lock control system.
- *: Use the intelligent tester.

1	VEHICLE BROUGHT TO WORKSHOP

NEXT

2	CUSTOMER PROBLEM ANALYSIS CHECK AND SYMPTOM CHECK

NEXT

3	INSPECT BATTERY VOLTAGE

Standard:
11 to 14 V
If the voltage is below 11 V, recharge or replace battery before proceeding.

NEXT

4	INSPECT COMMUNICATION FUNCTION OF LARGE-SCALE MULTIPLEX COMMUNICATION SYSTEM (BEAN)*

(a) Use the intelligent tester to check if the Multiplex Communication System (MPX) is functioning normally.
Result

Result	Proceed to
MPX DTC is not output	A
MPX DTC is output	B

B → GO TO MULTIPLEX COMMUNICATION SYSTEM

A

5	PROBLEM SYMPTOMS TABLE

Result

Result	Proceed to
If fault is not listed in problem symptoms table	A
If fault is listed in problem symptoms table	B

B → Go to step 7

A

6	OVERALL ANALYSIS AND TROUBLESHOOTING*

(a) Terminals of ECU (see page DL-9)
(b) DATA LIST / ACTIVE TEST (see page LI-18)

NEXT

7	REPAIR OR REPLACE

NEXT

8	CONFIRMATION TEST

NEXT

END

DL

CUSTOMIZE PARAMETERS

1. CUSTOMIZING FUNCTION WITH INTELLIGENT TESTER (REFERENCE)

HINT:

- When the customer requests modification of items, first make sure that the functions can be customized.
- Make a note of the current settings before customization.
- When troubleshooting items, first make sure that the functions are set to their default settings.
- The following items can be customized.

Power door lock control system:

Display (Item)	Default	Contents	Setting
UNLK/KEY TWICE	ON	Unlocks only driver side door when driver side door key cylinder turned to unlock once, and unlocks all doors when turned to unlock twice. For OFF setting, turning it once unlocks all doors.	ON / OFF

PROBLEM SYMPTOMS TABLE

HINT:
Use the table below to help determine the causes of the problem symptom. The potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

Power door lock control system

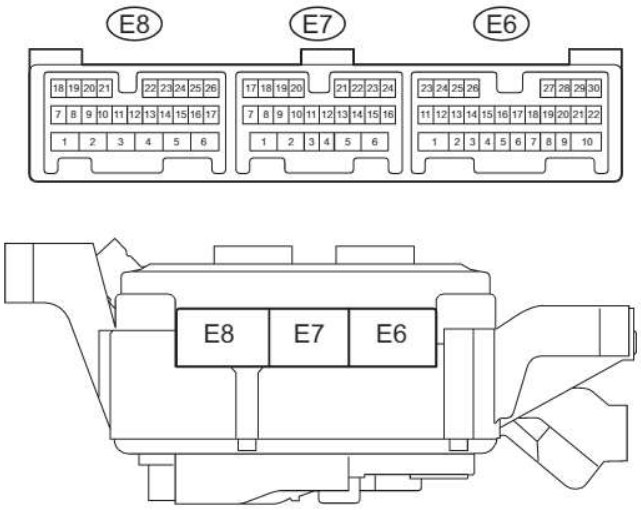
Symptom	Suspected area	See page
All Doors cannot be Locked / Unlocked Simultaneously	Power window regulator master switch (Door control switch)	DL-16
	Door control switch (Passenger side)	
	Front door lock assembly LH	
	Front door lock assembly RH	
	Back door lock cylinder	
	Wire harness	
	Main body ECU	
	Back door ECU	
Only Driver Door LOCK / UNLOCK Functions do not Operate	Front door lock assembly LH	DL-29
	Wire harness	
	Main body ECU	
Only Passenger Door LOCK / UNLOCK Functions do not Operate	Front door lock assembly RH	DL-31
	Wire harness	
	Main body ECU	
Only Back Door LOCK / UNLOCK Functions do not Operate	Back door lock cylinder	DL-33
	Wire harness	
	Main body ECU	
Key Lock-in Prevention Function does not Work Properly	Front door courtesy light switch LH (Driver side)	DL-35
	Unlock warning switch	
	Wire harness	
	Main body ECU	

TERMINALS OF ECU

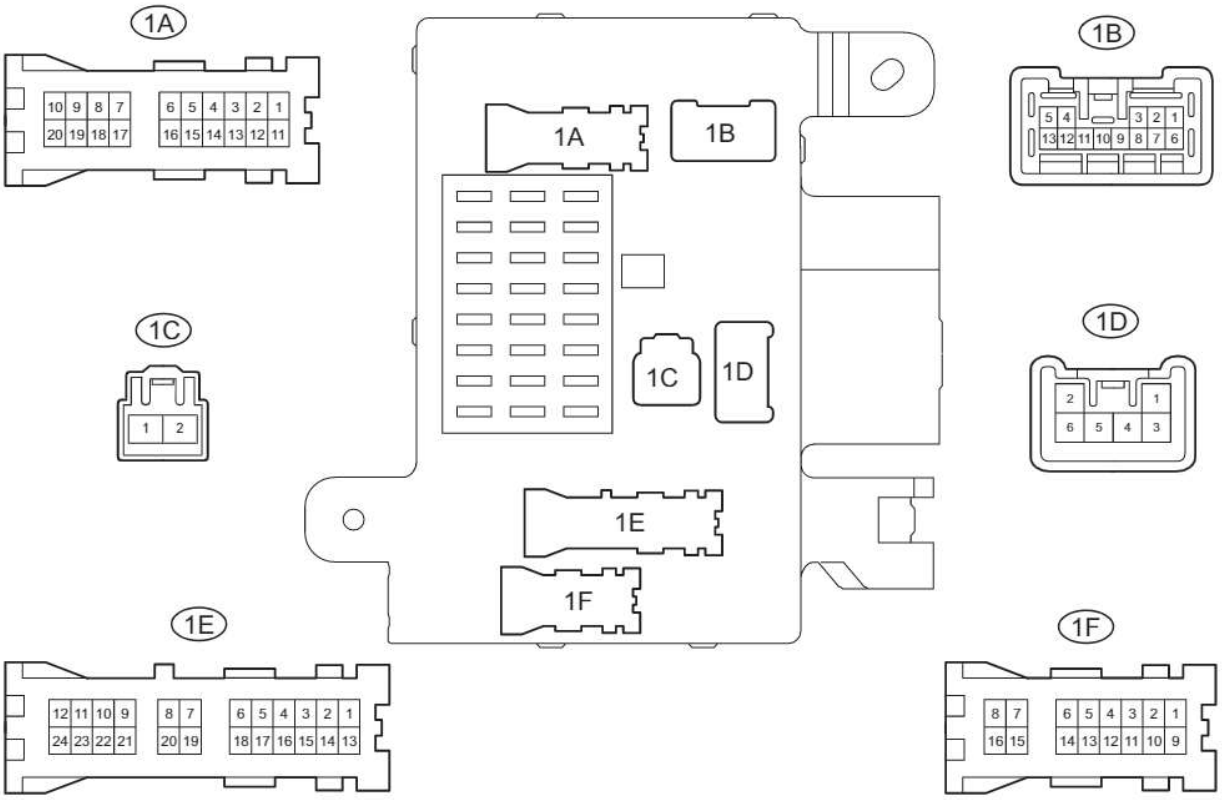
1. CHECK MAIN BODY ECU

Main Body ECU:

Left View:



Rear View:

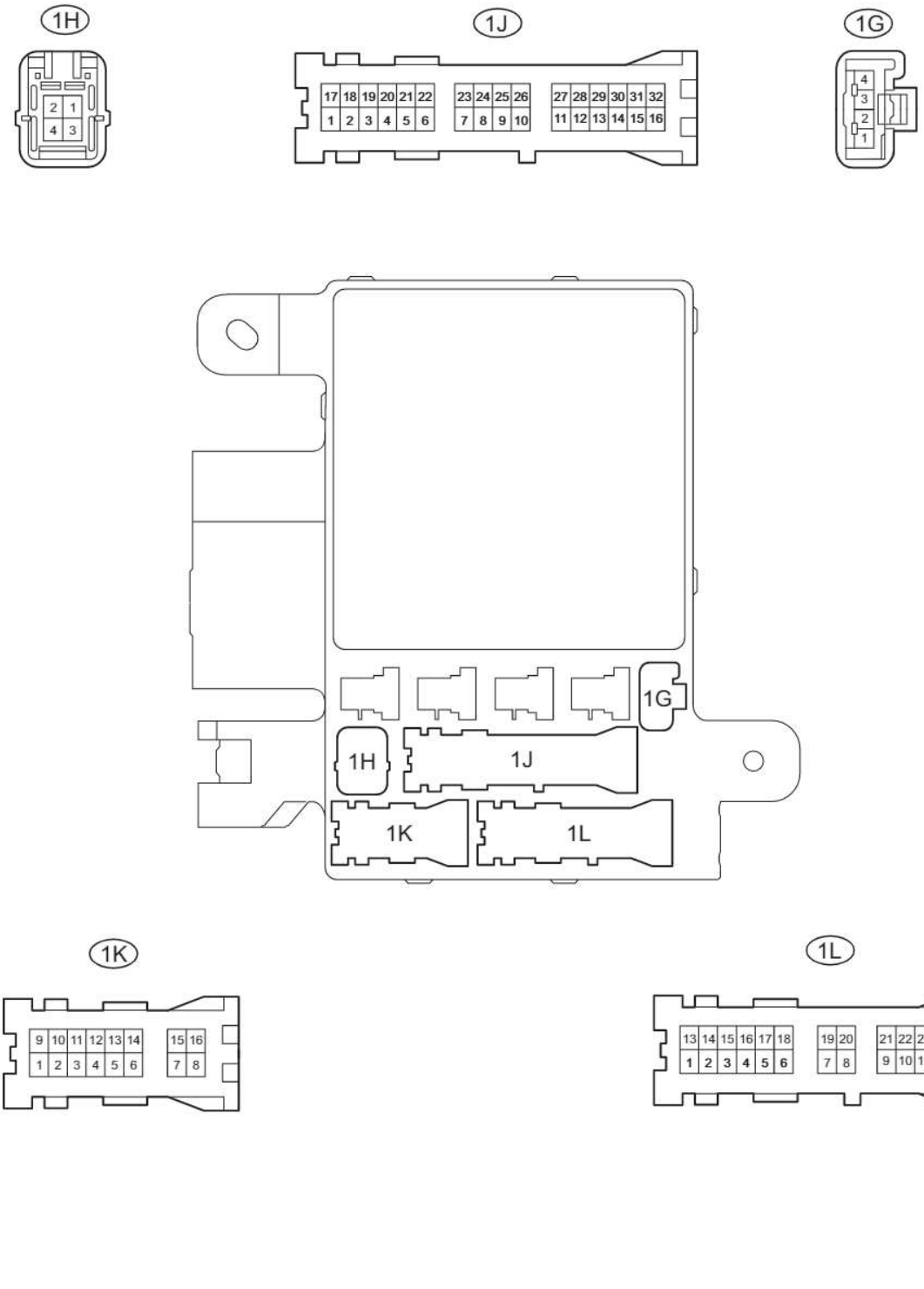


Y

B136051E01

Main Body ECU:

Front View:



(a) Disconnect the 1A, 1B, 1E, and 1H main body ECU connectors.

(b) Measure the voltages and resistances of the wire harness side connectors.

Standard:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
GND1 (1H-2) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω
BECU (1B-4) - Body ground	W-R - Body ground	Power source circuit (From battery)	Always	11 to 14 V
BDR1 (1E-9) - Body ground	B-Y - Body ground	Power source circuit (From battery)	Always	11 to 14 V
GND2 (1A-7) - Body ground)	W - Body ground	Ground	Always	Below 1 Ω

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

(c) Reconnect the main body ECU connectors.

(d) Measure the voltages of the wire harness side connectors.

Standard voltage:

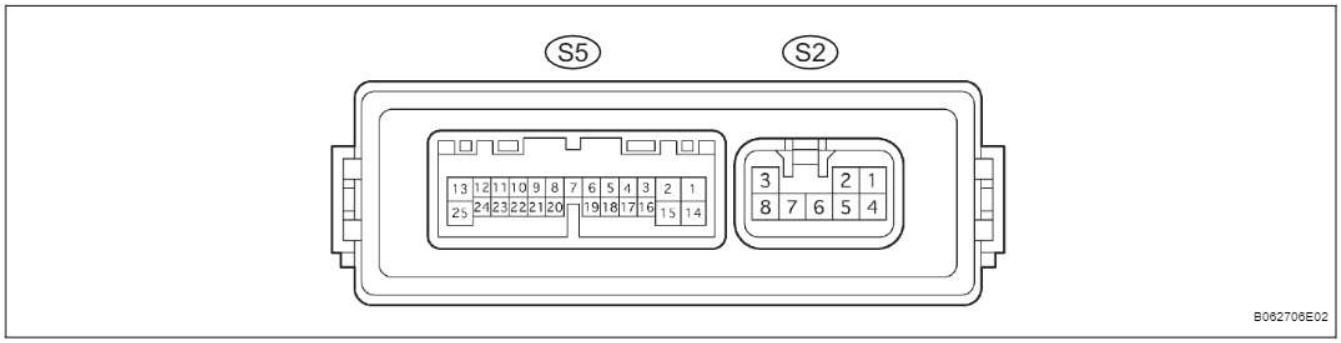
Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
SIG (1F-8) - Body ground	B-R - Body ground	Ignition switch signal	Ignition switch is OFF	Below 1V
			Ignition switch is ON	11 to 14 V
ACT+ (1L-9) - Body ground	L-R - Body ground	Driver side door lock motor LOCK drive output	Door control switch or Door key cylinder OFF	Below 1V
			Door control switch or driver side door key cylinder ON (LOCK)	11 to 14 V → Below 1 V
ACT+ (1L-6) - Body ground	L-R - Body ground	Passenger side door lock motor LOCK drive output	Door control switch or Door key cylinder OFF	Below 1V
			Door control switch or driver side door key cylinder ON (LOCK)	11 to 14 V → Below 1 V
ACT+ (1F-14) - Body ground	L-R - Body ground	Back door lock motor LOCK drive output	Door control switch or Door key cylinder OFF	Below 1V
			Door control switch or driver side door key cylinder ON (LOCK)	11 to 14 V → Below 1 V
ACTD (E6-10) - Body ground	L-B - Body ground	Driver side door lock motor UNLOCK drive output	Door control switch or Door key cylinder OFF	Below 1V
			Door control switch or driver side door key cylinder ON (UNLOCK)	11 to 14 V → Below 1 V
ACT- (1L-18) - Body ground	L-B - Body ground	Passenger side door lock motor UNLOCK drive output	Door control switch or Door key cylinder OFF	Below 1V
			Door control switch or driver side door key cylinder ON (UNLOCK)	11 to 14 V → Below 1 V
ACT- (1F-6) - Body ground	L-B - Body ground	Back door lock motor UNLOCK drive output	Door control switch or Door key cylinder OFF	Below 1V
			Door control switch or driver side door key cylinder ON (UNLOCK)	11 to 14 V → Below 1 V
LSWD (E6-21) - Body ground	W-R - Body ground	Driver side door unlock detection switch input	Driver side door unlocked	Below 1V
			Driver side door locked	10 to 14 V
LSWP (E6-30) - Body ground	B-W - Body ground	Passenger side door unlock detection switch input	Passenger side door unlocked	Below 1V
			Passenger side door locked	10 to 14 V

DL

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
LSR (1F-4) - Body ground	B - Body ground	Back door unlock detection switch input	Back door unlocked	Below 1V
			Back door locked	10 to 14 V
L2 (1K-3) - Body ground	L - Body ground	Driver side and passenger side door key-linked operated door lock switch input	Driver side and passenger side door key cylinder OFF	10 to 14 V
			Driver side or passenger side door key cylinder ON (LOCK)	Below 1 V
UL3 (E6-12) - Body ground	P - Body ground	Driver side door key-linked operated door unlock switch input	Driver side door key cylinder OFF	10 to 14 V
			Driver side door key cylinder ON (UNLOCK)	Below 1 V
UL2 (E6-22) - Body ground	Y-G - Body ground	Passenger side door key-linked operated door unlock switch input	Passenger side door key cylinder OFF	10 to 14 V
			Passenger side door key cylinder ON (UNLOCK)	Below 1 V
BCTY (E7-7) - Body ground	W - Body ground	Back door courtesy switch and back window courtesy switch input	Back door or back window open	Below 1V
			Back door and back window closed	10 to 14 V
RLCY (E7-11) - Body ground	P-B - Body ground	Rear LH door courtesy switch input	Rear LH door open	Below 1V
			Rear LH door closed	10 to 14 V
RRCY (E7-12) - Body ground	P-L - Body ground	Rear RH door courtesy switch input	Rear RH door open	Below 1V
			Rear RH door closed	10 to 14 V
DCTY (E7-23) - Body ground	R-B - Body ground	Driver door courtesy switch input	Driver door open	Below 1V
			Driver door closed	10 to 14 V
PCTY (E7-24) - Body ground	G-Y - Body ground	Front passenger door courtesy switch input	Front passenger door open	Below 1V
			Front passenger door closed	10 to 14 V
KSW (E8-14) - Body ground	G-Y - Body ground	Key unlock warning switch input	Key inserted in ignition key cylinder	Below 1V
			Key removed from ignition key cylinder	10 to 14 V
MPX2 (E6-23) - Body ground	BR-R - Body ground	Multiplex communication signal	During communication	Signal waveform

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

2. CHECK BACK DOOR ECU



(a) Disconnect the S2 back door ECU connector.

(b) Measure the voltages and resistances of the wire harness side connectors.

Standard:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
BECU (S2-5) - Body ground	W-R - Body ground	Power source circuit (From battery)	Always	11 to 14 V
GND (S2-3) - Body ground)	W-B - Body ground	Ground	Always	Below 1 Ω

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

(c) Reconnect the back door ECU connector.

(d) Measure the voltages of the wire harness side connectors.

Standard voltage:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
SIG (S2-6) Body ground	B-R - Body ground	Ignition switch signal	Ignition switch OFF	Below 1V
			Ignition switch ON	11 to 14 V
L (S5-5) - Body ground	L - Body ground	Back door key-linked operated door lock switch input	Back door key cylinder OFF	11 to 14 V
			Back door key cylinder ON (LOCK)	Below 1 V
UL (S5-4) - Body ground	R - Body ground	Back door key-linked operated door unlock switch input	Driver side door key cylinder OFF	11 to 14 V
			Driver side door key cylinder ON (UNLOCK)	Below 1 V
MPX2 (S2-1) - Body ground	BR-R - Body ground	Multiplex communication signal	During communication	Signal waveform

DL

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

DATA LIST / ACTIVE TEST

1. READ DATA LIST

HINT:

Using the intelligent tester's DATA LIST allows a switch, sensor, actuator and other item values to be read without removing any parts. Reading the DATA LIST early in troubleshooting is one way to save time.

(a) Connect the intelligent tester with CAN VIM to the DLC3.

(b) Turn the ignition switch ON.

(c) Read the DATA LIST according to the prompts displayed on the tester.

BODY:

Item	Measurement Item/Dispay (Range)	Normal Condition	Diagnostic Note
D DOR CTY SW	Driver door courtesy switch signal/ON or OFF	ON :Driver door is open OFF: Driver door is closed	-
P DOR CTY SW	Front passenger door courtesy switch signal/ON or OFF	ON: Front passenger door is open OFF: Front passenger door is closed	-
Rr DOR CTY SW	Rear door courtesy switch signal/ ON or OFF	ON: Either right or left rear door is open OFF: Both right and left rear doors are closed	-
LUGG COURTSY SW	Back door and back window courtesy switch signal/ON or OFF	ON: Either back door or back window is open OFF: Both back door and back window are closed	-
D LOCK POS SW	Driver side door unlock detection switch signal / ON or OFF	ON: Driver side door is unlocked OFF: Driver side door is locked	-
P LOCK POS SW	Passenger side door unlock detection switch signal / ON or OFF	ON: Passenger side door is unlocked OFF: Passenger side door is locked	-
Rr LOCK POS SW	Back door unlock detection switch signal / ON or OFF	ON: Back door is unlocked OFF: Back door is locked	-
D/L SW-LOCK	Door manual lock switch signal ON or OFF	ON: Door control switch is pushed to lock position OFF: Door control switch is not pushed	-
D/L SW-UNLOCK	Door manual unlock switch signal / ON or OFF	ON: Door control switch is pushed to unlock position OFF: Door control switch is not pushed	-
DOR KEY SW-LOCK	Door key linked lock switch signal / ON or OFF	ON: Driver side door key cylinder or passenger side door key cylinder is turned to lock position OFF: Driver side door key cylinder or passenger side door key cylinder is not turned	-
D DOR KEY SW-UL	Door key linked lock switch signal / ON or OFF	ON: Driver side door key cylinder is turned to unlock position OFF: Driver side door key cylinder is not turned	-
P DOR KEY SW-UL	Door key linked lock switch signal / ON or OFF	ON: Passenger side door key cylinder is turned to unlock position OFF: Passenger side door key cylinder is not turned	-

DL

BACK-DOOR:

Item	Measurement Item/Dispay (Range)	Normal Condition	Diagnostic Note
KEY SW (LOCK)	Door key linked lock switch signal / ON or OFF	ON: Back door key cylinder is turned to lock position OFF: Back door key cylinder is not turned	-
KEY SW (UNLOCK)	Door key linked lock switch signal / ON or OFF	ON: Back door key cylinder is turned to unlock position OFF: Back door key cylinder is not turned	-

2. PERFORM ACTIVE TEST

HINT:

Performing the intelligent tester's ACTIVE TEST allows relays, VSV, actuators and other items to be operated without removing any parts. Performing the ACTIVE TEST early in troubleshooting is one way to save time. The DATA LIST can be displayed during the ACTIVE TEST.

(a) Connect the intelligent tester with CAN VIM to the DLC3.

(b) Turn the ignition switch ON.

(c) Perform the ACTIVE TEST according to the prompts displayed on the tester.

BODY:

Item	Test Details/ Display (Range)	Diagnostic Note
DOOR LOCK	Operate door lock motor LOCK/UNLOCK	-

DL

ON-VEHICLE INSPECTION

1. CHECK ELECTRICAL DOOR LOCK OPERATION

(a) Check that all doors lock when the door control switch (for manual operation) is turned to LOCK and all doors unlock when turned to UNLOCK.

(b) Check that all doors lock when the door lock key cylinder is turned to LOCK using the mechanical key and unlock when turned to UNLOCK using the mechanical key.

(c) Check that only the driver side door unlocks when the driver side door lock key cylinder is turned to UNLOCK and all doors unlock when turned to UNLOCK once again within 3 seconds using the key (2-step unlocking function).

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

NOTICE:

Perform this operation with the driver door window open to prevent the key from being locked inside the vehicle.

(1) Insert the ignition key into the ignition key cylinder.

(2) Check that all doors are immediately unlocked when the driver side door lock knob is turned to the lock position with the driver door open.

(3) Check that all doors are immediately unlocked when the door control switch (for driver side) or door control switch (for front passenger side) is turned to the lock position with the driver door open.

(4) Check that all doors are unlocked when the driver door is closed after the driver door lock knob is held in the lock position for 2 seconds with the driver door open.

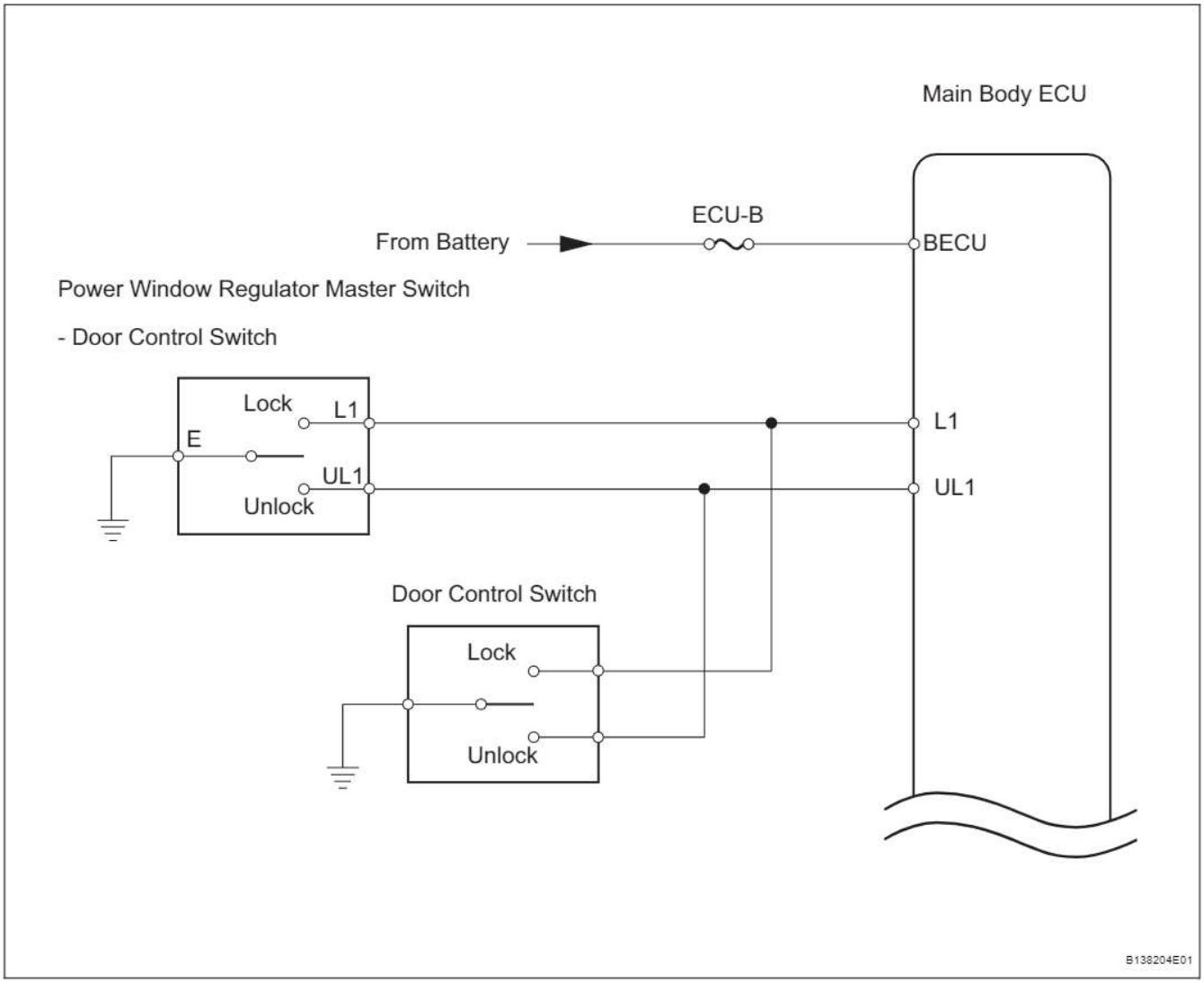
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All Doors cannot be Locked / Unlocked Simultaneously

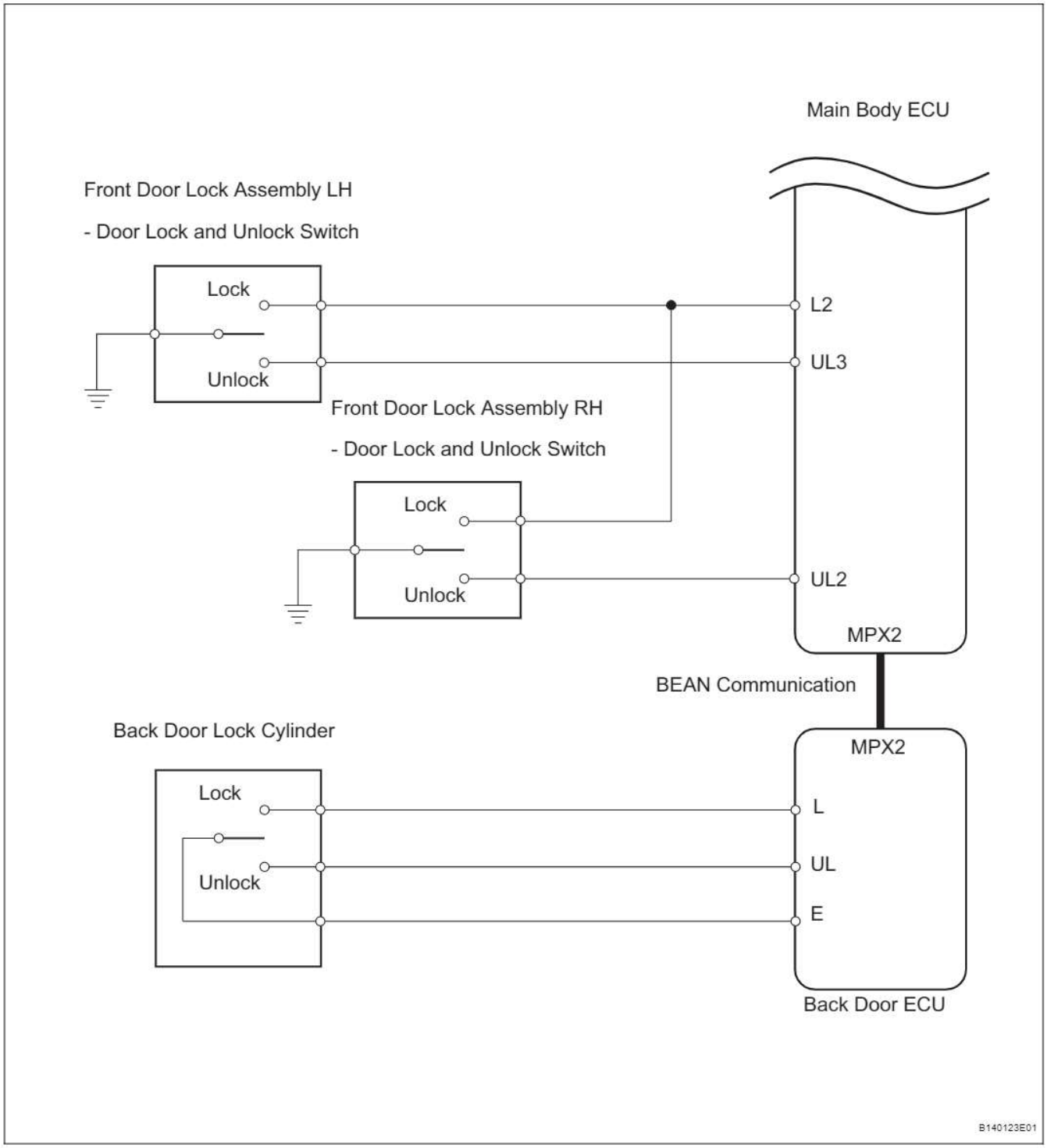
DESCRIPTION

The main body ECU receives switch signals from the door control switch on the power window regulator master switch, door control switch, driver side door key cylinder, passenger side door key cylinder and back door key cylinder, and activates the door lock motor on each door accordingly.

WIRING DIAGRAM



DL



INSPECTION PROCEDURE

1	PERFORM ACTIVE TEST BY INTELLIGENT TESTER (DOOR LOCK)

(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Select the item below in the ACTIVE TEST and then check that the security indicator operates.

BODY

Item	Test Details	Diagnostic Note
DOOR LOCK	Operate door lock motor LOCK/UNLOCK	-

OK:
Doors can lock / unlock.

OK → Go to step 4

NG

2 INSPECT FUSE (ECU-B)

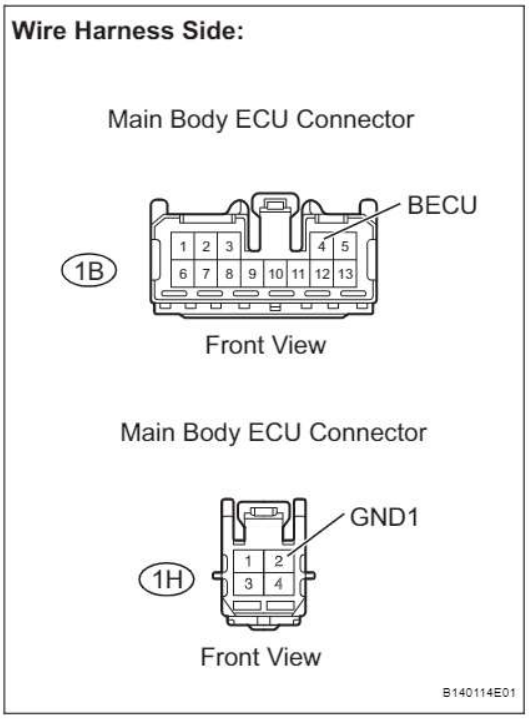
(a) Remove the ECU-B fuse from the engine room R/B No.2.
(b) Measure the resistance.
Standard resistance:
Below 1 Ω
(c) Reinstall the ECU-B fuse.

NG → REPLACE FUSE

OK

DL

3 CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - BATTERY, BODY GROUND)



(a) Disconnect the 1B and 1H main body ECU connectors.
(b) Measure the voltage.
Standard voltage

Tester Connection	Specified Condition
IB-4 (BECU) - Body ground	11 to 14 V

(c) Measure the resistance.
Standard resistance

Tester Connection	Specified Condition
IH-2 (GND1) - Body ground	Below 1 Ω

(d) Reconnect the main body ECU connectors.

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

4	CHECK OPERATION (ALL DOORS LOCK/ UNLOCK)

(a) All doors can be locked/unlocked at once using the following:
- Door control switch on the power window regulator master switch (switch operation)
- Door control switch on the front passenger side (switch operation).
- Door key cylinder linked with door lock on the driver side (key operation)
- Door key cylinder linked with door lock on the passenger side (key operation)
- Door key cylinder linked with door lock on the back door (key operation)

(b) Proceed to the next step according to the symptom if all the doors cannot be locked / unlocked at once.

Result

Symptom	Proceed to
All doors cannot be locked / unlocked at once using door control switch.	A
All doors cannot be locked / unlocked at once using door key cylinder	B

B → Go to step 12

A

5	CHECK OPERATION (DOOR CONTROL SWITCH)

(a) Proceed to the next step according to the symptom listed in the table below.

Result

Symptom	Proceed to
All doors cannot be locked / unlocked at once using door control switch on power window regulator master switch	A
All doors cannot be locked / unlocked at once using door control switch on front passenger side	B

B → Go to step 9

A

6	READ VALUE OF INTELLIGENT TESTER (DOOR CONTROL SWITCH)

(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON and turn the intelligent tester main switch ON.
(c) Select the items below in the "DATA LIST" and read the display on the intelligent tester.

BODY

Item	Measurement Item / Display (Range)	Normal Condition	Diagnostic Note
D/L SW-LOCK	Door manual lock switch signal / ON or OFF	ON: Door control switch on power window regulator master switch is pushed to lock position OFF: Door control switch on power window regulator master switch is not pushed	-
D/L SW-UNLOCK	Door manual unlock switch signal / ON or OFF	ON: Door control switch on power window regulator master switch is pushed to unlock position OFF: Door control switch on power window regulator master switch is not pushed	-

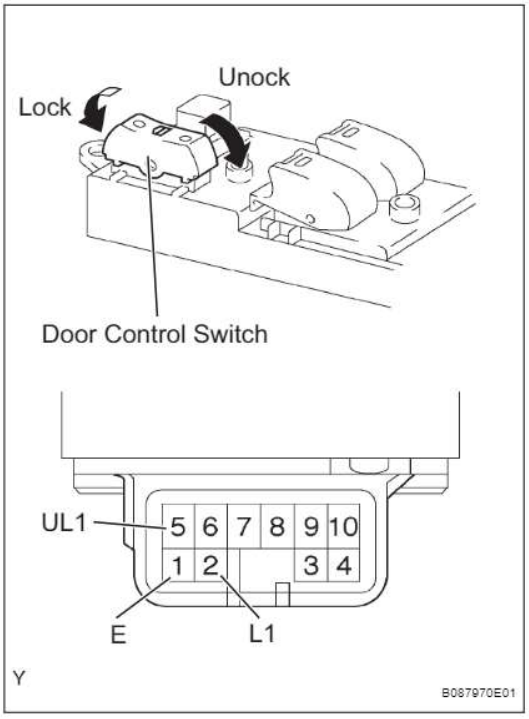
OK:
When the switch is operaed, the intelligent tester displays ON and OFF as shown in the table.

OK → **REPLACE MAIN BODY ECU**

NG

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

DL



(a) Remove the power window regulator master switch (door control switch).
(b) Measure the resistance
Standard resistance

Tester Connection	Switch Condition	Specified Condition
1 (E) - 2 (L1)	Locked	Below 1 Ω
1 (E) - 2 (L1)	OFF	10 kΩ or higher
1 (E) - 5 (UL1)	OFF	10 kΩ or higher
1 (E) - 5 (UL1)	Unlocked	Below 1 Ω

(c) Reinstall the power window regulator master switch.

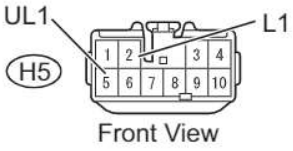
NG → **REPLACE POWER WINDOW REGULATOR MASTER SWITCH ASSEMBLY**

OK

8 CHECK HARNESS AND CONNECTOR (DOOR CONTROL SWITCH - MAIN BODY ECU, BODY GROUND)

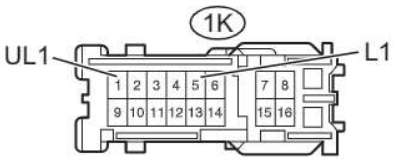
Wire Harness Side:

Power Window Regulator Master Switch Connector



Front View

Main Body ECU Connector



Front View

B140115E01

(a) Disconnect the 1K main body ECU connector.
(b) Disconnect the H5 power window regulator master switch (door control switch) connector.
(c) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Specified Condition
H5-2 (L1) - 1K-5 (L1)	Below 1 Ω
H5-5 (UL1) - 1K-1 (UL1)	Below 1 Ω
H5-2 (L1) or 1K-5 (L1) - Body ground	10 kΩ or higher
H5-5 (UL1) or 1K-1 (UL1) - Body ground	10 kΩ or higher

(d) Reconnect the main body ECU connector.
(e) Reconnect the the power window regulator master switch connector.

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

OK

REPLACE MAIN BODY ECU

9 READ VALUE OF INTELLIGENT TESTER (DOOR CONTROL SWITCH)

(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON and turn the intelligent tester main switch ON.
(c) Select the items below in the "DATA LIST" and read the display on the intelligent tester.

BODY

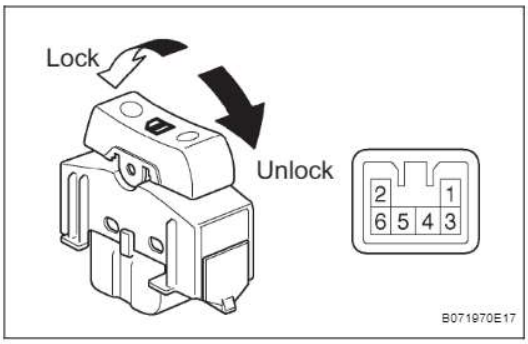
Item	Measurement Item / Display (Range)	Normal Condition	Diagnostic Note
D/L SW-LOCK	Door manual lock switch signal / ON or OFF	ON: Passenger side door control switch is pushed to lock position OFF: Passenger side door control switch is not pushed	-
D/L SW-UNLOCK	Door manual unlock switch signal / ON or OFF	ON: Passenger side door control switch is pushed to unlock position OFF: Passenger side door control switch is not pushed	-

OK:
When the door key cylinder is operated, the intelligent tester displays ON and OFF as shown in the table.

OK → REPLACE MAIN BODY ECU

NG

10 INSPECT DOOR CONTROL SWITCH ASSEMBLY



(a) Remove the door control switch (front passenger side).
(b) Measure the resistance

Standard resistance

Tester Connection	Switch Condition	Specified Condition
3 - 6	Locked	Below 1 Ω
3 - 6	OFF	10 kΩ or higher
3 - 5	OFF	10 kΩ or higher
3 - 5	Unlocked	Below 1 Ω

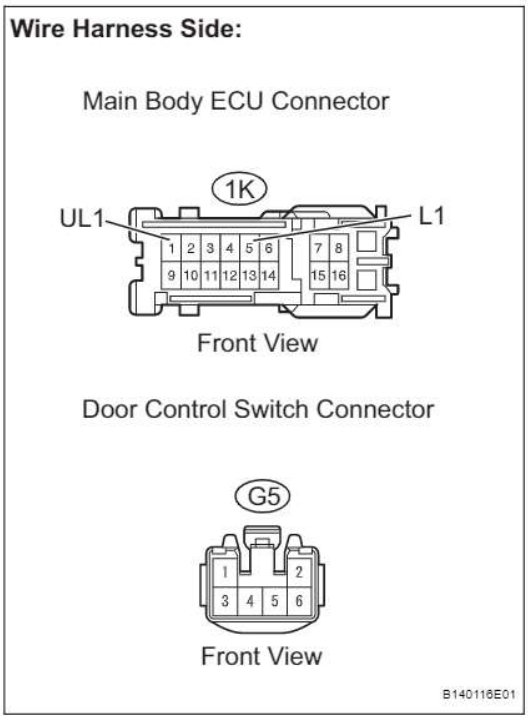
(c) Reinstall the door control switch.

NG → REPLACE DOOR CONTROL SWITCH ASSEMBLY

OK

11 CHECK HARNESS AND CONNECTOR (DOOR CONTROL SWITCH - MAIN BODY ECU, BODY GROUND)

DL



(a) Disconnect the 1K main body ECU connector.
(b) Disconnect the G5 door control switch (front passenger side) connector.
(c) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Specified Condition
G5-6 - 1K-5 (L1)	Below 1 Ω
G5-5 - 1K-1 (UL1)	Below 1 Ω
G5-6 or 1K-5 (L1) - Body ground	10 kΩ or higher
G5-5 or 1K-1 (UL1) - Body ground	10 kΩ or higher

(d) Reconnect the main body ECU connector.
(e) Reconnect the the door control switch connector.

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

12	CHECK OPERATION (DOOR KEY CYLINDER)

(a) Proceed to the next step according to the symptom listed in the table below.

Result

Symptom	Proceed to
All doors cannot be locked / unlocked at once using door key cylinder on driver side	A
All doors cannot be locked / unlocked at once using door key cylinder on front passenger side	B
All doors cannot be locked / unlocked at once using door key cylinder on back door	C

B → Go to step 16

C → Go to step 19

A

13	READ VALUE OF INTELLIGENT TESTER (DOOR KEY SWITCH)

(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON and turn the intelligent tester main switch ON.
(c) Select the items below in the "DATA LIST" and read the display on the intelligent tester.

DL

BODY

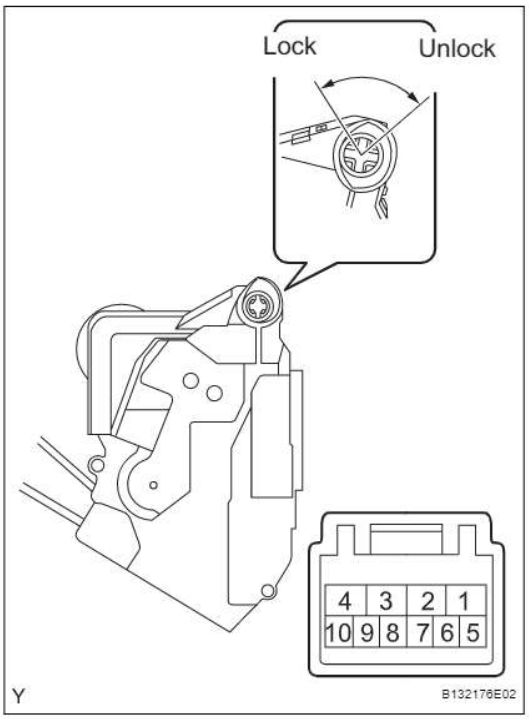
Item	Measurement Item / Display (Range)	Normal Condition	Diagnostic Note
DOR KEY SW-LOCK	Door key linked lock switch signal / ON or OFF	ON: Driver side door key cylinder is turned to lock position OFF: Driver side door key cylinder is not turned	-
D DOR KEY SW-UL	Door key linked unlock switch signal / ON or OFF	ON: Driver side door key cylinder is turned to unlock position OFF: Driver side door key cylinder is not turned	-

OK:
When the switch is operating, the intelligent tester should display as shown in the table.

OK → REPLACE MAIN BODY ECU

NG

14	INSPECT FRONT DOOR LOCK ASSEMBLY LH



(a) Remove the front door lock assembly LH (driver side).
(b) Measure the resistance of the door lock and unlock switch.

Standard resistance

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

(c) Reinstall the front door lock assembly LH.

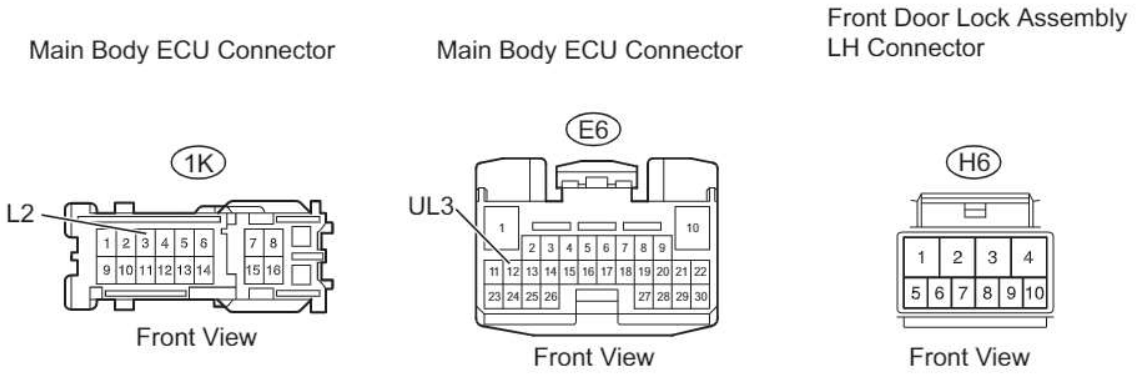
NG → REPLACE FRONT DOOR LOCK ASSEMBLY LH

DL

OK

15	CHECK HARNESS AND CONNECTOR (FRONT DOOR LOCK ASSEMBLY LH - MAIN BODY ECU)

Wire Harness Side:



(a) Disconnect the 1K and E6 main body ECU connectors.
(b) Disconnect the H6 front door lock assembly LH connector.
(c) Measure the resistance.

Standard resistance

Tester Connection	Specified Condition
H6-9 - 1K-3 (L2)	Below 1 Ω
H6-10 - E6-12 (UL3)	Below 1 Ω
H6-9 or 1K-3 (L2) - Body ground	10 kΩ or higher
H6-10 or E6-12 (UL3) - Body ground	10 kΩ or higher

(d) Reconnect the main body ECU connectors.
(e) Reconnect the front door lock assembly LH connector.

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

16 READ VALUE OF INTELLIGENT TESTER (DOOR KEY SWITCH)

(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON and turn the intelligent tester main switch ON.
(c) Select the items below in the "DATA LIST" and read the display on the intelligent tester.

DL

BODY

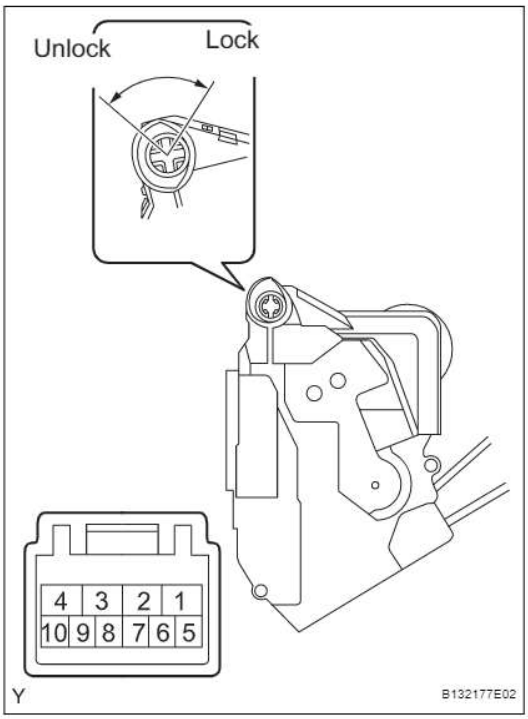
Item	Measurement Item / Display (Range)	Normal Condition	Diagnostic Note
DOR KEY SW-LOCK	Door key linked lock switch signal / ON or OFF	ON: Front passenger side door key cylinder is turned to lock position OFF: Front passenger side door key cylinder is not turned	-
P DOR KEY SW-UL	Door key linked unlock switch signal / ON or OFF	ON: Front passenger side door key cylinder is turned to unlock position OFF: Front passenger side door key cylinder is not turned	-

OK:
When the door key cylinder is operated, the intelligent tester displays ON and OFF as shown in the table.

OK → REPLACE MAIN BODY ECU

NG

17	INSPECT FRONT DOOR LOCK ASSEMBLY RH



(a) Remove the front door lock assembly RH (front passenger side).
(b) Measure the resistance of the door lock and unlock switch.

Standard resistance

Tester Connection	Door Lock Condition	Specified Condition
6 - 8	Locked	Below 1 Ω
6 - 8	Unlocked	10 kΩ or higher
5 - 8	Locked	10 kΩ or higher
5 - 8	Unlocked	Below 1 Ω

(c) Reinstall the front door lock assembly RH.

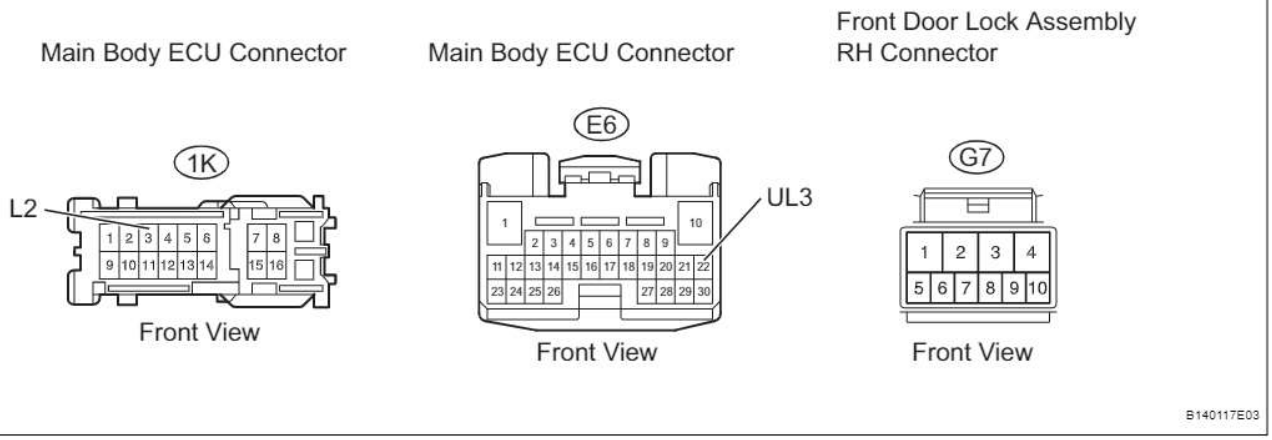
NG → REPLACE FRONT DOOR LOCK ASSEMBLY RH

DL

OK

18	CHECK HARNESS AND CONNECTOR (FRONT DOOR LOCK ASSEMBLY RH - MAIN BODY ECU)

Wire Harness Side:



(a) Disconnect the 1K and E6 main body ECU connectors.
(b) Disconnect the G7 front door lock assembly RH connector.
(c) Measure the resistance.

Standard resistance

Tester Connection	Specified Condition
G7-6 - 1K-3 (L2)	Below 1 Ω
G7-5 - E6-22 (UL2)	Below 1 Ω
G7-6 or 1K-3 (L2) - Body ground	10 kΩ or higher
G7-5 or E6-22 (UL2) - Body ground	10 kΩ or higher

(d) Reconnect the main body ECU connectors.
(e) Reconnect the front door lock assembly RH connector.

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

OK

REPLACE MAIN BODY ECU

19 CHECK DTC OUTPUT

(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Clear the DTCs.
(d) Check whether DTC B1287 recurs 10 seconds or more after the ignition switch is turned on.

OK:
No DTC is output.

NG → **GO TO MULTIPLEX COMMUNICATION SYSTEM**

OK

20 INSPECT BACK DOOR LOCK CYLINDER



(a) Remove the back door lock cylinder.
(b) Measure the resistance of the the back door lock cylinder (door lock and unlock switch).

Standard resistance

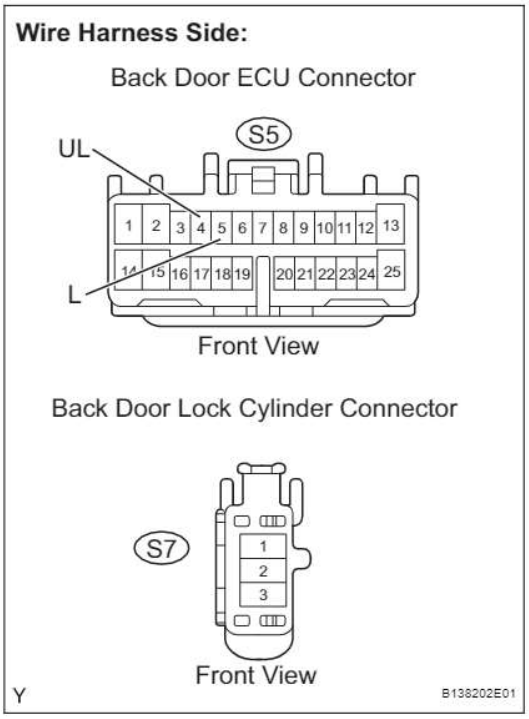
Tester Connection	Key Condition	Specified Condition
2 - 1	Lock position	Below 1 Ω
2 - 1	Unlock position	10 kΩ or higher
3 - 1	Lock position	10 kΩ or higher
3 - 1	Unlock position	Below 1 Ω

(c) Reinstall the the back door lock cylinder.

NG → **REPLACE BACK DOOR LOCK CYLINDER**

OK

21	CHECK HARNESS AND CONNECTOR (BACK DOOR LOCK CYLINDER - BACK DOOR ECU)



(a) Disconnect the S5 back door ECU connector.
(b) Disconnect the S7 back door lock cylinder connector.
(c) Measure the resistance.

Standard resistance

Tester Connection	Specified Condition
S7-2 - S5-5 (L)	Below 1 Ω
S7-3 - S5-4 (UL)	Below 1 Ω
S7-2 or S5-5 (L) - Body ground	10 kΩ or higher
S7-3 or S5-4 (UL) - Body ground	10 kΩ or higher

(d) Reconnect the back body ECU connector.
(e) Reconnect the back door lock cylinder connector.

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

DL

OK

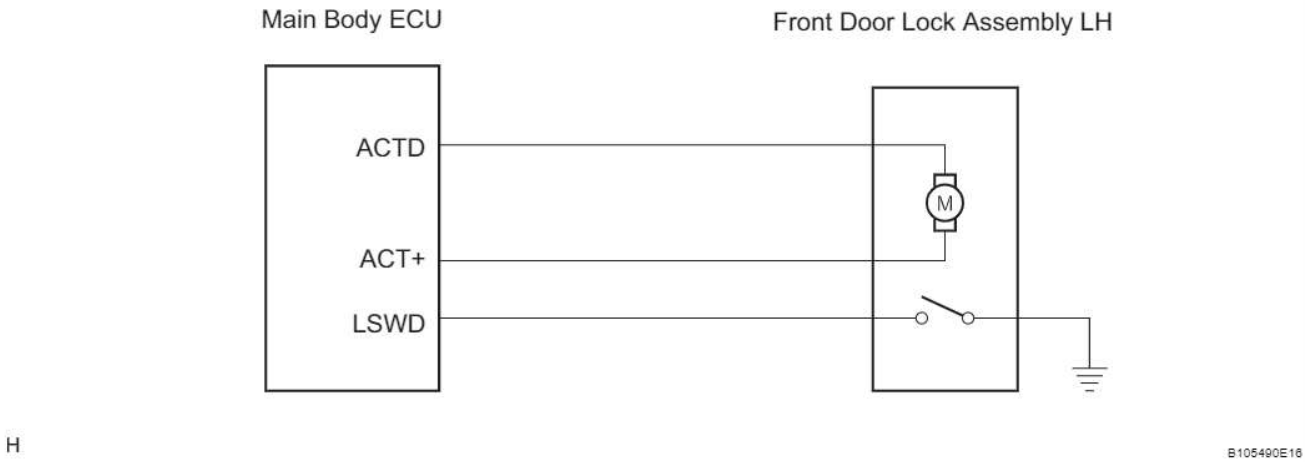
REPLACE BACK DOOR ECU

Only Driver Door LOCK / UNLOCK Functions do not Operate

DESCRIPTION

The main body ECU receives lock/unlock switch signals and activates the door lock motor accordingly.

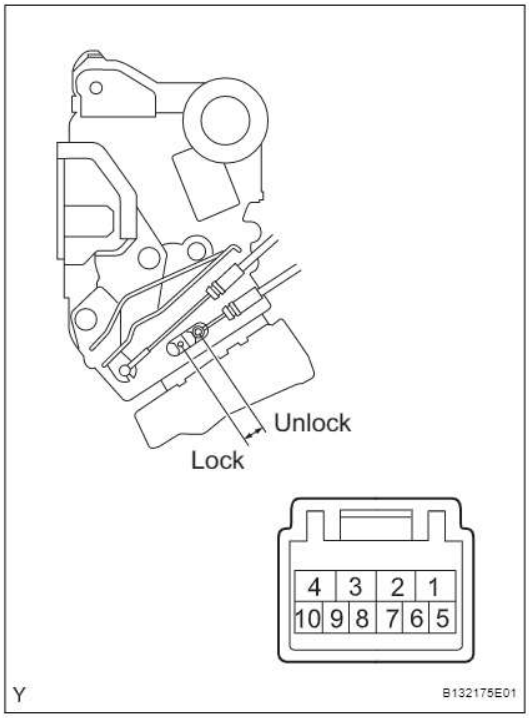
WIRING DIAGRAM



INSPECTION PROCEDURE

DL

1 INSPECT FRONT DOOR LOCK ASSEMBLY LH



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

Standard

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 4 Battery negative(-) → Terminal 2	Locks
Battery positive (+) → Terminal 2 Battery negative(-) → Terminal 4	Unlocks

(b) Measure the resistance of the unlock detection switch.

Standard resistance

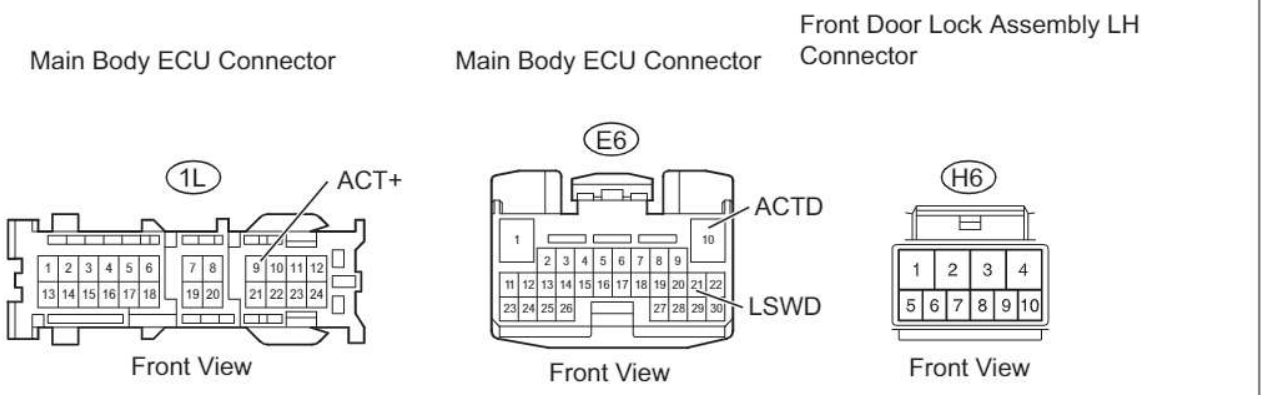
Tester Connection	Door Lock Condition	Specified Condition
7 - 8	Locked	10 kΩ or higher
7 - 8	Unlocked	Below 1 Ω

NG → REPLACE FRONT DOOR LOCK ASSEMBLY LH

OK

2	CHECK WIRE HARNESS AND CONNECTOR (MAIN BODY ECU - FRONT DOOR LOCK ASSEMBLY LH)

Wire Harness Side:



(a) Disconnect the E6 and 1L main body ECU connectors.
(b) Disconnect the H6 front door lock assembly LH connector.
(c) Measure the resistance.

Standard resistance

Tester Connection	Specified Condition
1L-9 (ACT+) - H6-4	Below 1 Ω
E6-10 (ACTD) - H6-1	Below 1 Ω
E6-21 (LSWD) - H6-8	Below 1 Ω
H6-7 - Body ground	Below 1 Ω
1L-9 (ACT+) or H6-4 - Body ground	10 kΩ or higher
E6-10 (ACTD) or H6-1 - Body ground	10 kΩ or higher
E6-21 (LSWD) or H6-8 - Body ground	10 kΩ or higher

(d) Reconnect the main body ECU connectors.
(e) Reconnect the front door lock assembly LH connector.

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

OK

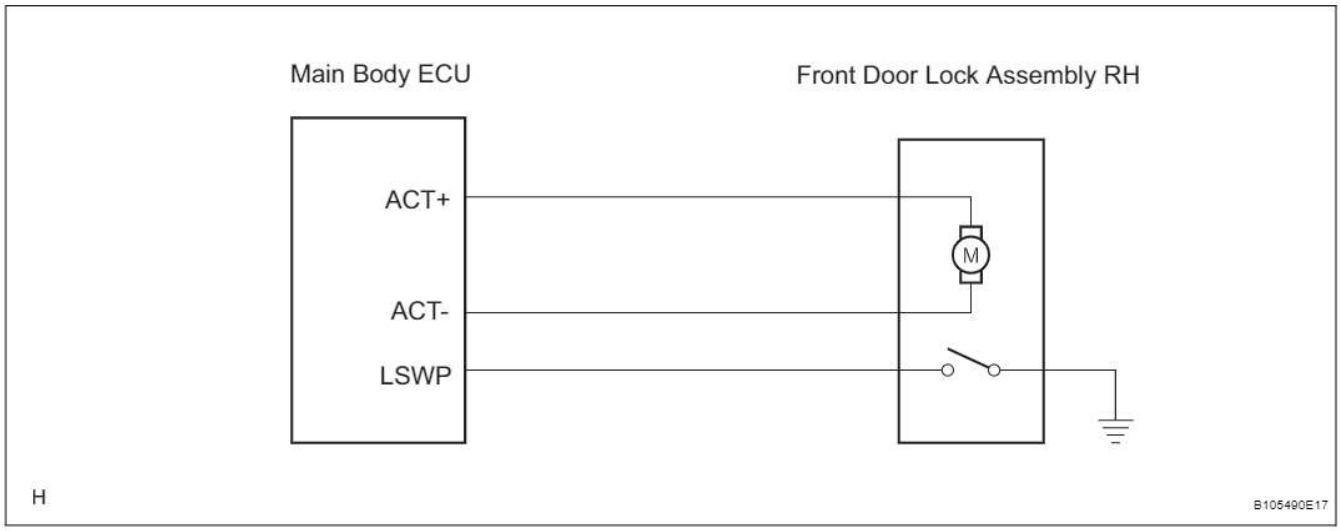
REPLACE MAIN BODY ECU

Only Passenger Door LOCK / UNLOCK Functions do not Operate

DESCRIPTION

The main body ECU receives lock/unlock switch signals and activates the door lock motor accordingly.

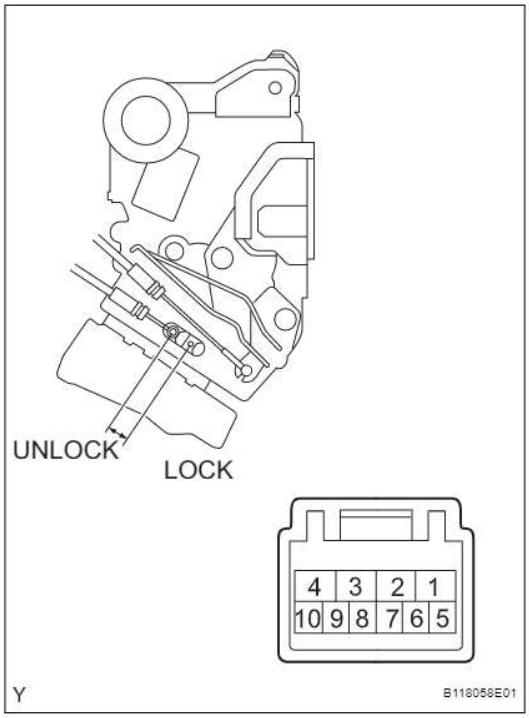
WIRING DIAGRAM



INSPECTION PROCEDURE

DL

1	INSPECT FRONT DOOR LOCK ASSEMBLY RH



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

Standard

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 3 Battery negative(-) → Terminal 1	Locks
Battery positive (+) → Terminal 1 Battery negative(-) → Terminal 3	Unlocks

(b) Measure the resistance of the unlock detection switch.

Standard resistance

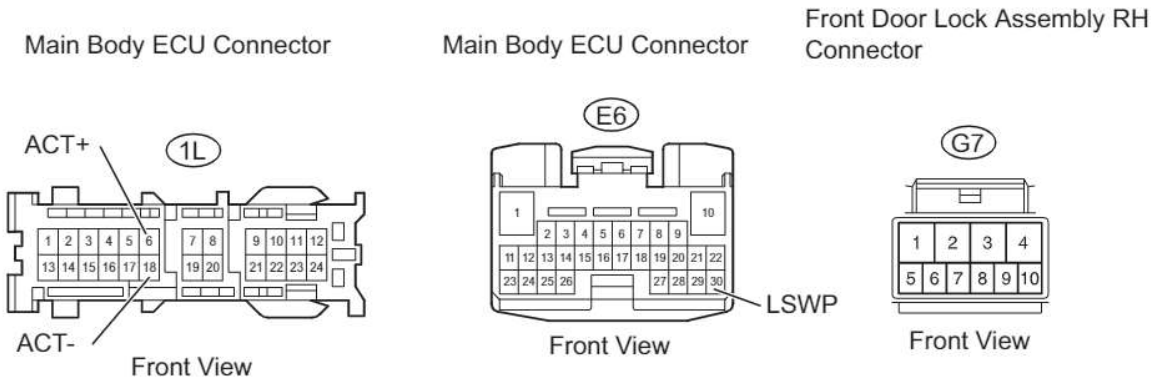
Tester Connection	Door Lock Condition	Specified Condition
7 - 8	Locked	10 kΩ or higher
7 - 8	Unlocked	Below 1 Ω

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

2	CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - FRONT DOOR LOCK ASSEMBLY RH)

Wire Harness Side:



(a) Disconnect the 1L and E6 main body ECU connectors.
(b) Disconnect the G7 front door lock assembly RH connector.
(c) Measure the resistance.

Standard resistance

Tester Connection	Specified Condition
1L-6 (ACT+) - G7-4	Below 1 Ω
1L-18 (ACT-) - G7-1	Below 1 Ω
E6-30 (LSWP) - G7-7	Below 1 Ω
G7-8 - Body ground	Below 1 Ω
1L-6 (ACT+) or G7-4 - Body ground	10 kΩ or higher
1L-18 (ACT-) or G7-1 - Body ground	10 kΩ or higher
E6-30 (LSWP) or G7-7 - Body ground	10 kΩ or higher

(d) Reconnect the main body ECU connectors.
(e) Reconnect the front door lock assembly RH connector.

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

OK

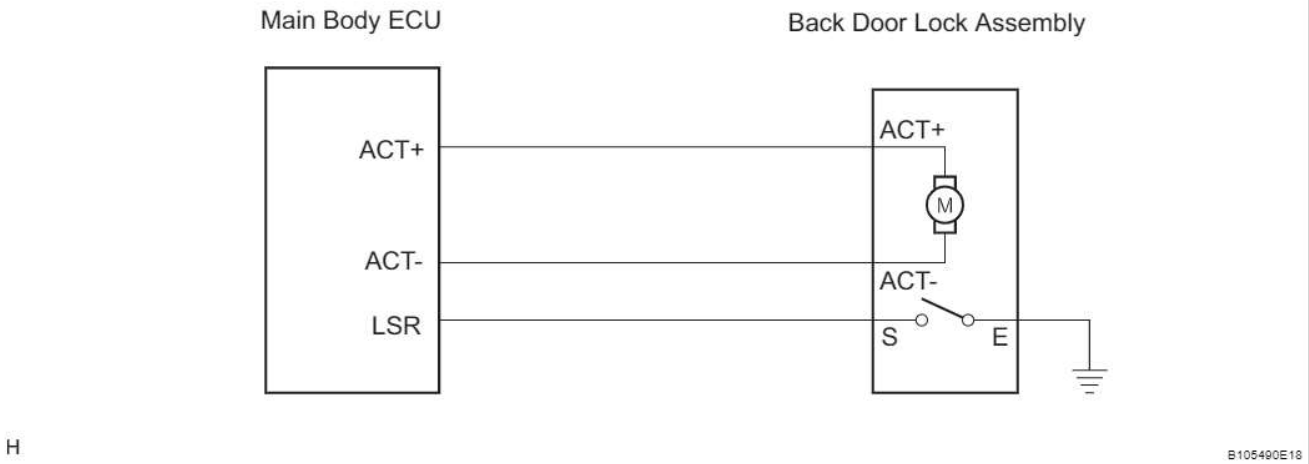
REPLACE MAIN BODY ECU

Only Back Door LOCK / UNLOCK Functions do not Operate

DESCRIPTION

The main body ECU receives lock/unlock switch signals and activates the door lock motor accordingly.

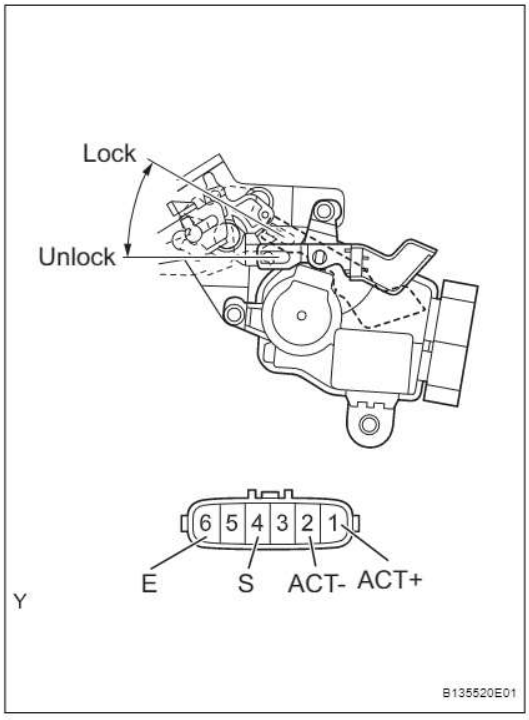
WIRING DIAGRAM



INSPECTION PROCEDURE

DL

1 INSPECT BACK DOOR LOCK ASSEMBLY



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

Standard

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 1 (ACT+) Battery negative(-) → Terminal 2 (ACT-)	Locks
Battery positive (+) → Terminal 2 (ACT-) Battery negative(-) → Terminal 1 (ACT+)	Unlocks

(b) Measure the resistance of the unlock detection switch.

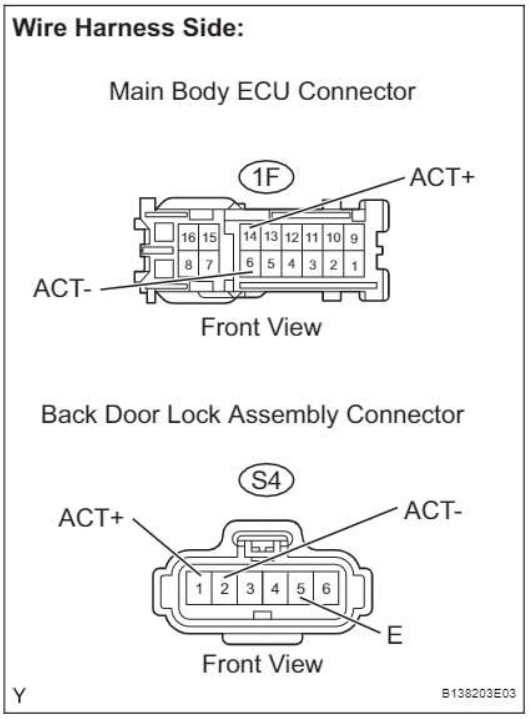
Standard resistance

Tester Connection	Door Lock Condition	Specified Condition
4 (S) - 5 (E)	Locked	10 kΩ or higher
4 (S) - 5 (E)	Unlocked	Below 1 Ω

NG → REPLACE BACK DOOR LOCK ASSEMBLY

OK

2	CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - BACK DOOR LOCK ASSEMBLY)



(a) Disconnect the 1F main body ECU connector.
(b) Disconnect the S4 back door lock assembly connector.
(c) Measure the resistance.

Standard resistance

Tester Connection	Specified Condition
1F-14 (ACT+) - S4-1 (ACT+)	Below 1 Ω
1F-6 (ACT-) - S4-2 (ACT-)	Below 1 Ω
S4-5 (E) - Body ground	Below 1 Ω
1F-14 (ACT+) or S4-1 (ACT+) - Body ground	10 kΩ or higher
1F-6 (ACT-) or S4-2 (ACT-) - Body ground	10 kΩ or higher

(d) Reconnect the main body ECU connector.
(e) Reconnect the back door lock assembly connector.

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

DL

OK

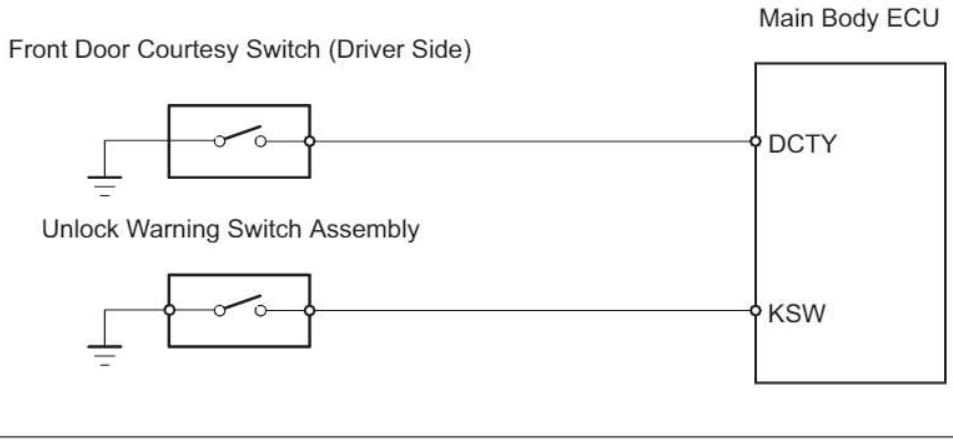
REPLACE MAIN BODY ECU

Key Lock-in Prevention Function does not Work Properly

DESCRIPTION

When the key is in the ignition key cylinder or the door courtesy light ON signal is output to the main body ECU, performing the door lock operation with the lock switch does not lock the doors.

WIRING DIAGRAM



INSPECTION PROCEDURE

DL

1	READ VALUE OF INTELLIGENT TESTER (D DOR CTY SW)

(a) Use the DATA LIST to check the operation of the front door courtesy switch.

BODY

Item	Measurement Item / Display (Range)	Normal Condition	Diagnostic Note
D DOR CTY SW	Driver side door courtesy switch signal / ON or OFF	ON: Driver side door is open OFF: Driver side door is closed	-

OK:
The display is as specified in the normal condition.

NG → **Go to step 5**

OK

2	READ VALUE OF INTELLIGENT TESTER (KEY UNLK WRN SW)

(a) Use the DATA LIST to check the operation of the door unlock warning switch.

BODY

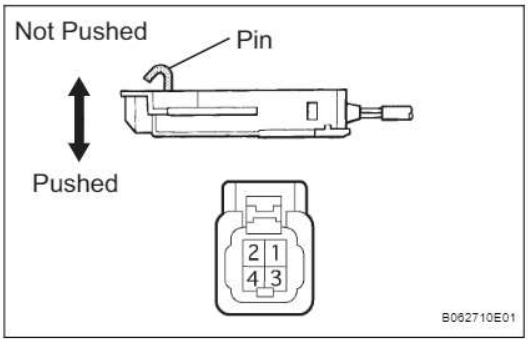
Item	Measurement Item / Display (Range)	Normal Condition	Diagnostic Note
KEY UNLK WRN SW	Unlock warning switch signal / ON or OFF	ON: Key is in ignition key cylinder OFF: No key is in ignition key cylinder	-

OK:
The display is as specified in the normal condition.

NG → **REPLACE MAIN BODY ECU**

OK

3 INSPECT UNLOCK WARNING SWITCH ASSEMBLY



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

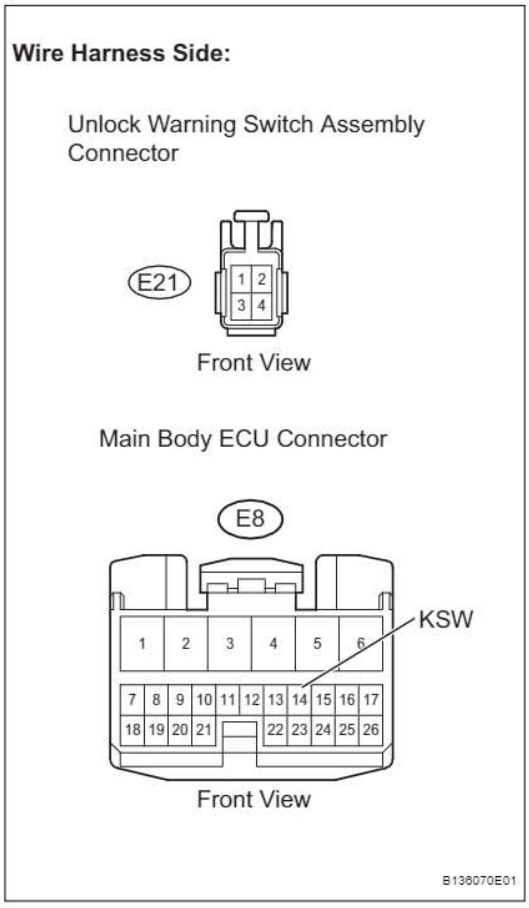
Tester Connection	Condition	Specified Condition
1 - 2	Not pushed	10 kΩor higher
1 - 2	Pushed	Below 1 Ω

NG → **REPLACE UNLOCK WARNING SWITCH ASSEMBLY**

DL

OK

4 CHECK HARNESS AND CONNECTOR (UNLOCK WARNING SWITCH ASSEMBLY - MAIN BODY ECU)



(a) Disconnect the E21 unlock warning switch assembly connector.
(b) Disconnect the E8 main body ECU connector.
(c) Measure the resistance.

Standard resistance

Tester Connection	Specified Condition
E21-1 - E8-14 (KSW)	Below 1 Ω
E21-1 or E8-14 (KSW) - Body ground	10 kΩor higher
E21-2 - Body ground	Below 1 Ω

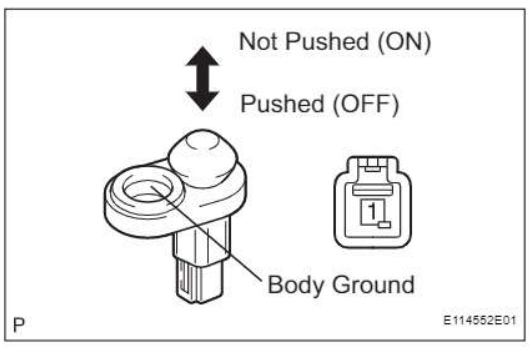
(d) Reconnect the unlock warning switch connector.
(e) Reconnect the main body ECU connector.

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

OK

REPLACE MAIN BODY ECU

5 INSPECT FRONT DOOR COURTESY SWITCH ASSEMBLY (DRIVER SIDE)



(a) Remove the front door courtesy switch (driver side).
(b) Measure the resistance.

Standard resistance

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

(c) Reinstall the front door courtesy switch (driver side).

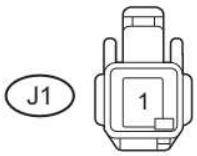
NG → **REPLACE FRONT DOOR COURTESY SWITCH ASSEMBLY (DRIVER SIDE)**

OK

6	CHECK HARNESS AND CONNECTOR (FRONT DOOR COURTESY SWITCH (DRIVER SIDE) - MAIN BODY ECU)

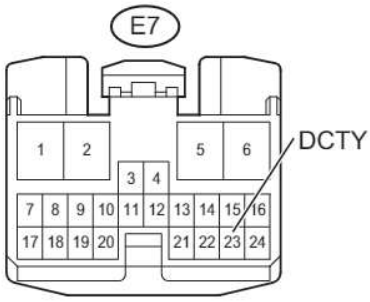
Wire Harness Side:

Front Door Courtesy Switch Connector (Driver Side)



Front View

Main Body ECU Connector



Front View

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(a) Disconnect the J1 front door courtesy switch (driver side) connector.
(b) Disconnect the E7 main body ECU connector.
(c) Measure the resistance.

Standard resistance

Tester Connection	Specified Condition
J1-1 - E7-23 (DCTY)	Below 1 Ω
J1-1 or E7-23 (DCTY) - Body ground	10 kΩor higher

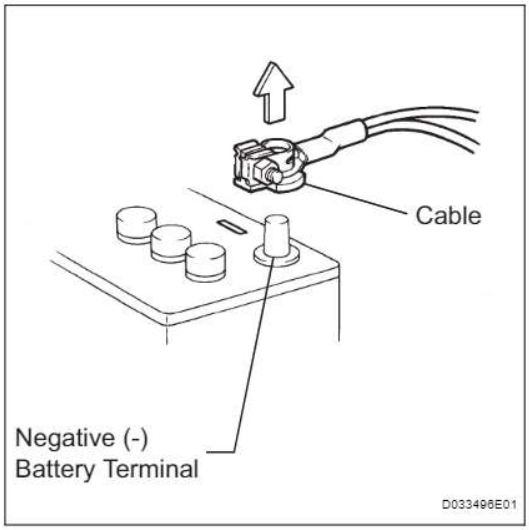
(d) Reconnect the front door courtesy switch connector.
(e) Reconnect the main body ECU connector.

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

OK

REPLACE MAIN BODY ECU

DL



WIRELESS DOOR LOCK CONTROL SYSTEM

PRECAUTION

1. DISCONNECT AND RECONNECT CABLE OF NEGATIVE BATTERY TERMINAL

(a) Before performing electronic work, disconnect the cable from the negative (-) battery terminal in order to prevent it from shorting and burning out.

(b) Before disconnecting and reconnecting the battery cable, turn the ignition switch OFF and the headlight dimmer switch OFF. Then loosen the terminal nut completely. Do not damage the cable or terminal.

(c) When the battery cable is disconnected, the clock and radio settings and stored DTCs are erased. Therefore, before disconnecting the battery cable, make a notes of them.

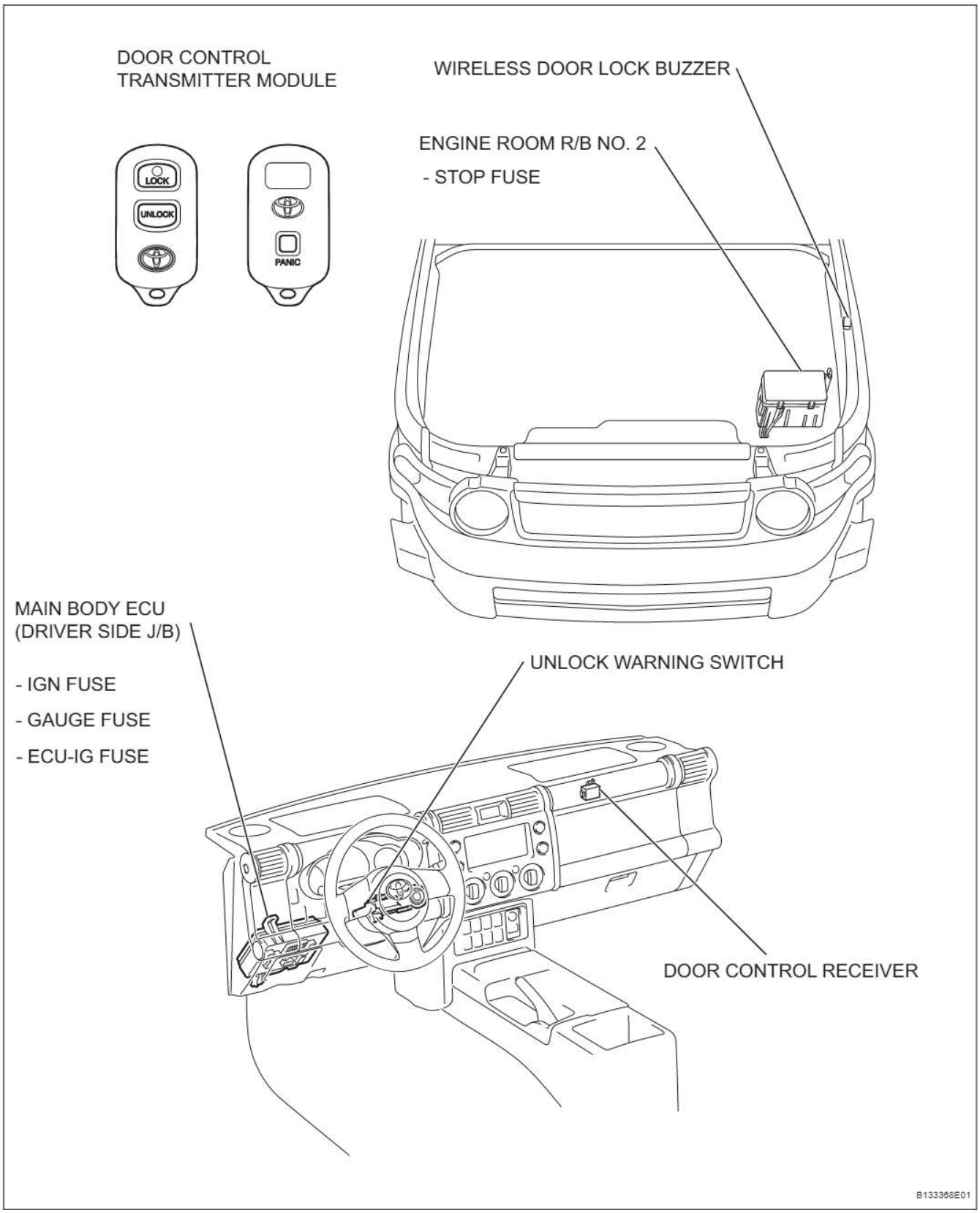
NOTICE:

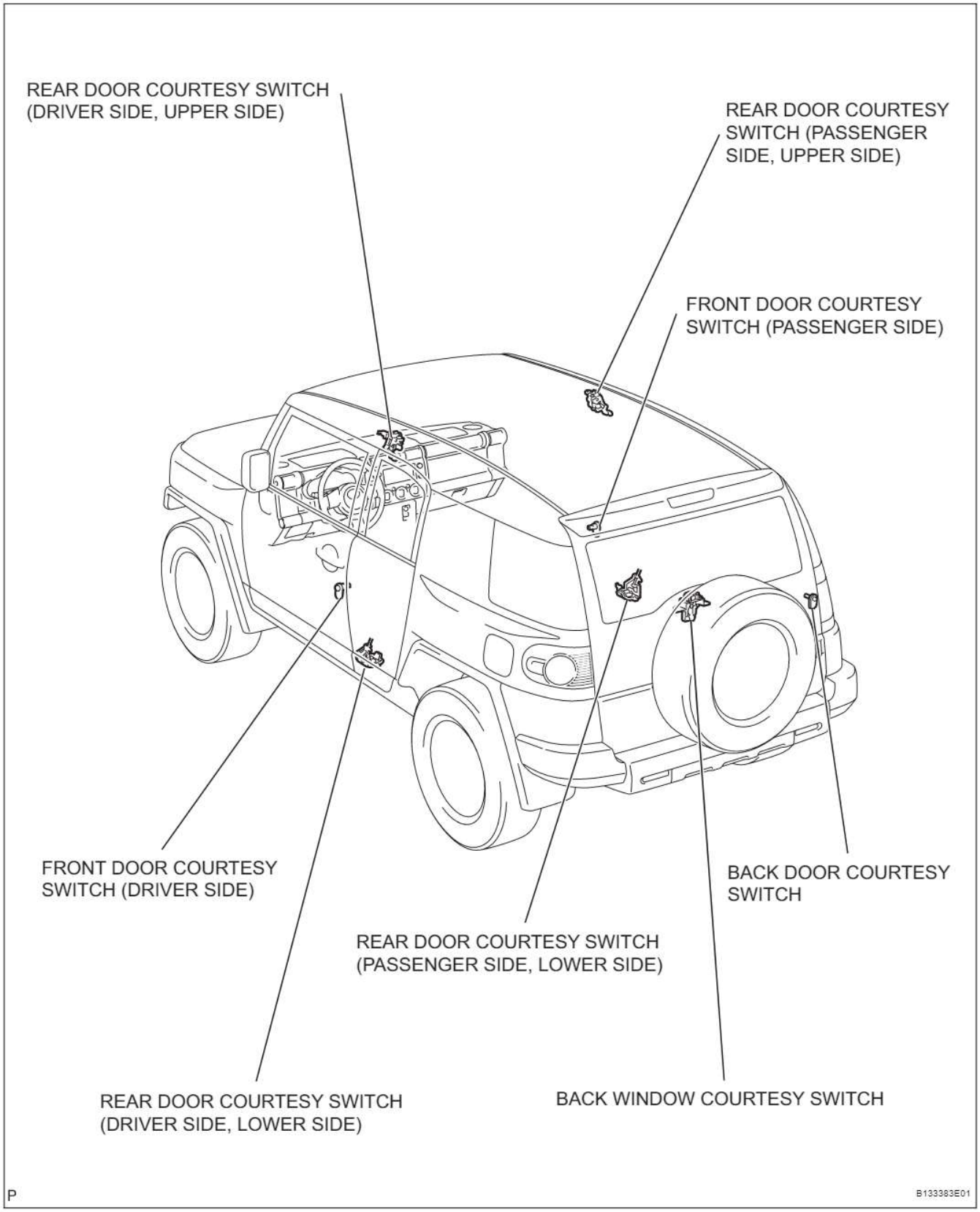
When the cable is disconnected from the negative (-) battery terminal, initialize the following system(s) after the cable is reconnected.

System name	See procedure
METER / GAUGE SYSTEM	ME-10

DL

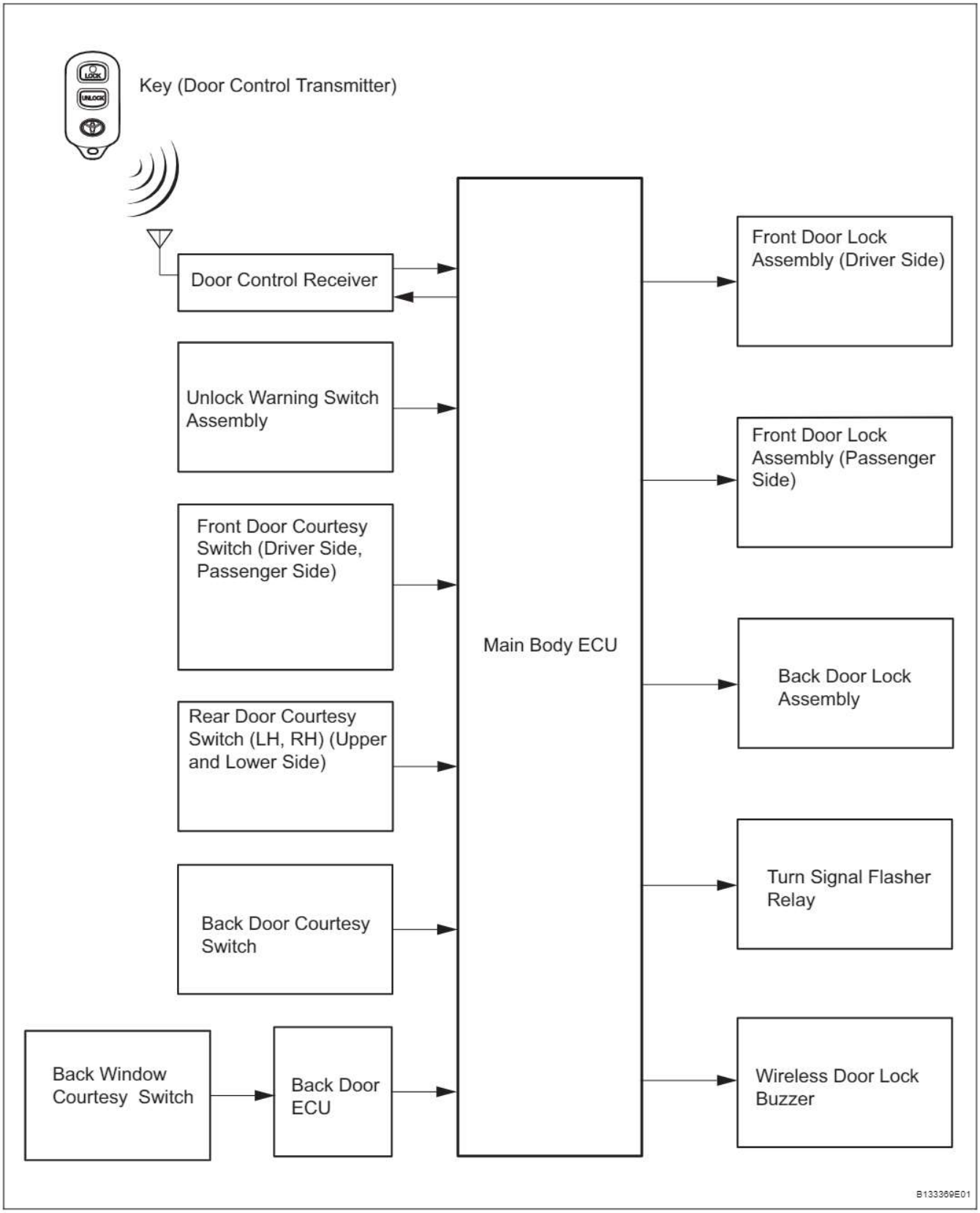
PARTS LOCATION




REAR DOOR COURTESY SWITCH (DRIVER SIDE, UPPER SIDE)
REAR DOOR COURTESY SWITCH (PASSENGER SIDE, UPPER SIDE)
FRONT DOOR COURTESY SWITCH (PASSENGER SIDE)
FRONT DOOR COURTESY SWITCH (DRIVER SIDE)
BACK DOOR COURTESY SWITCH
REAR DOOR COURTESY SWITCH (PASSENGER SIDE, LOWER SIDE)
REAR DOOR COURTESY SWITCH (DRIVER SIDE, LOWER SIDE)
BACK WINDOW COURTESY SWITCH
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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 procedure and the main body ECU operates the door lock control. A serial data link is provided for communication between the receiver and main body ECU.
- A key-integrated type transmitter is used and it contains the following 3 switches: the door lock switch, door unlock switch and panic switch.

2. FUNCTION OF MAIN COMPONENTS

Components	Functions
Door control transmitter	• Contains LOCK and UNLOCK switches • Transmits faint electric waves (recognition codes and function codes) to door control receiver
Door control receiver	Receives weak electric waves (recognition codes and function codes) from door control transmitter, and changes waves to code data
Door lock position switch	Transmits door lock conditions of each door to main body ECU
Unlock warning switch assembly	Detects if key is in ignition key cylinder
Front door courtesy switch assembly Rear door courtesy switch assembly Back door courtesy switch assembly Back window courtesy switch assembly	Turns ON when door is open and turns OFF when door is closed. Outputs door status (open or closed) to main body ECU.

DL

3. SYSTEM FUNCTION

(a) Door lock / unlock function:
With no key in the ignition key cylinder (unlock warning switch is OFF) and all door courtesy switches OFF, pressing the door control transmitter's LOCK / UNLOCK switch causes the transmitter to output faint electric waves. The transmitter sends the faint electrical wave to the door control receiver. The high frequency circuit built into the door control receiver demodulates the wave into code data, computes the data, and compares the data with previously registered ID codes. If the data is verified, a door lock / unlock request signal is output to the main body ECU. When the request signal is received, the main body ECU outputs a door lock / unlock control signal to each door lock assembly. Each door lock assembly then locks / unlocks its respective door and turns ON / OFF its door lock position switch in accordance with the signal.

(b) Answer-back function:
The main body ECU receives the door unlock detection switch's ON / OFF signals and uses these signals to confirm if the door control operation has been completed. The main body ECU then outputs the hazard warning light control signals to flash the hazard warning lights and the wireless door lock buzzer control signals to sound the wireless door lock buzzer as an answer-back indication.

(c) The wireless door lock control system has the following functions.

Function	Outline
All door lock function	Pressing LOCK switch locks all doors
All door unlock function	Pressing 2 times UNLOCK switch unlocks all doors
Answer-back function	Hazard warning lights flash once and wireless door lock buzzer sounds once when doors are locked, and hazard warning lights flash twice and wireless door lock buzzer sounds twice when doors are unlocked to indicate that operation has been completed
Automatic locking function	If no doors are opened within 60 seconds of being unlocked by wireless transmitter, all doors are locked again automatically
Illuminated entry function	If locked doors are unlocked through wireless operation, dome light illuminate. If one of following situations occurs, lights fade out: • Within 15 seconds, doors are not opened and doors are locked through wireless operation • Within 15 seconds, key is inserted into ignition key cylinder and ignition switch is turned ON • No operations or actions are performed within 15 seconds
Panic alarm function	Pressing PANIC switch for more than 1 second sounds horn
Security function	Sends signal as rolling code
Transmitter recognition code registration function	Enables 4 modes for registering (writing and storing) transmitter recognition codes in EEPROM, built into door control receiver

DL

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 these procedures to troubleshoot the wireless door lock control system.
- *: Use the intelligent tester.

1 VEHICLE BROUGHT TO WORKSHOP

NEXT

2 INSPECT BATTERY VOLTAGE

Standard voltage:
11 to 14 V

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

NEXT

3 INSPECT COMMUNICATION FUNCTION OF CAN COMMUNICATION SYSTEM*

(a) Use the intelligent tester to check if the CAN Communication System is functioning normally.

Result:

Result	Proceed to
DTC is not output	A
DTC is output	B

B → **GO TO DIAGNOSTIC TROUBLE CODE CHART**

A

4 PROBLEM SYMPTOMS TABLE

Result:

Result	Proceed to
Fault is not listed in problem symptoms table	A
Fault is listed in problem symptoms table	B

B → **Go to step 6**

A

5	OVERALL ANALYSIS AND TROUBLESHOOTING*

(a) Terminals of ECU (see page DL-48)
(b) Data List / Active Test (see page DL-54)
(c) On-vehicle Inspection (see page DL-54)

NEXT

6	REPAIR OR REPLACE

NEXT

7	CONFIRMATION TEST

NEXT

END

DL

CUSTOMIZE PARAMETERS

1. CUSTOMIZING FUNCTION WITH INTELLIGENT TESTER (REFERENCE)

HINT:

The following items can be customized.

NOTICE:

- **When the customer requests a change in a function, first make sure that the function can be customized.**
- **Record the current settings before customizing.**
- **When troubleshooting a function, first make sure that the function is set to the default setting.**

Wireless Door Lock Control System

Display (Item)	Default	Contents	Setting
HAZARD ANS BACK	ON	When wireless lock switch on transmitter pressed, illuminates all hazard warning lights once. When unlock switch pressed, all hazard warning lights illuminate twice	ON / OFF
WIRELESS OPER	ON	ON /OFF of wireless door lock function	ON / OFF
ALARM FUNCTION	ON	Operates security alarm when panic switch on transmitter continuously pressed for 1 second	ON / OFF
UNLOCK/2 OPER	ON	Function that unlocks driver side door when unlock switch on transmitter is pressed once, and unlocks all doors when pressed twice. If setting is OFF, pressing unlock switch once makes all doors unlock.	ON / OFF
AUTO LOCK DELAY	30 seconds	Time until relocking after unlocking with wireless door lock function	60 seconds / 30 seconds
OPEN DOOR WARN	ON	If a door is not completely closed and LOCK is pressed, this function sounds a buzzer for 10 seconds	ON / OFF
WIRELS BUZZ VOL	MID2	To adjust the volume of the wireless buzzer	OFF / MIN / MID1/ MID2 /MID3 / MAX

PROBLEM SYMPTOMS TABLE

HINT:
Use the table below to help determine the causes of the problem symptom. The potential cases of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

Wireless Door Lock Control System

Symptom	Suspected area	See page
Only wireless control function inoperative	Transmitter battery	DL-81
	Door control transmitter	DL-88
	Door control receiver	-
	Wire harness	-
	Main body ECU	-
No answer-back	Lighting system	LI-38
	Wireless door lock buzzer	DL-121
	Wire harness	-
	Main body ECU	-

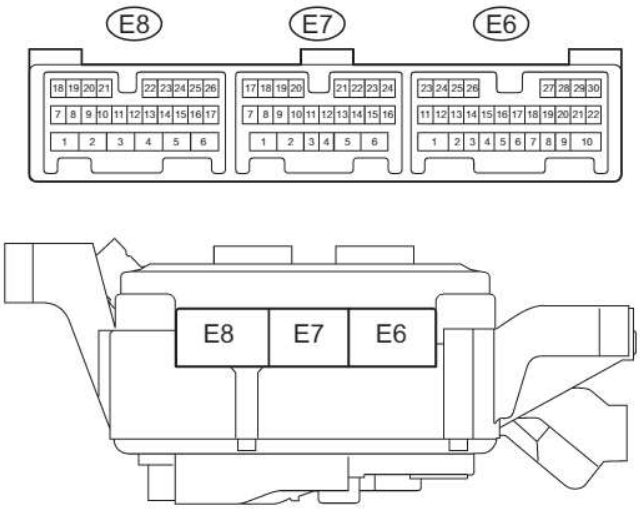
DL

TERMINALS OF ECU

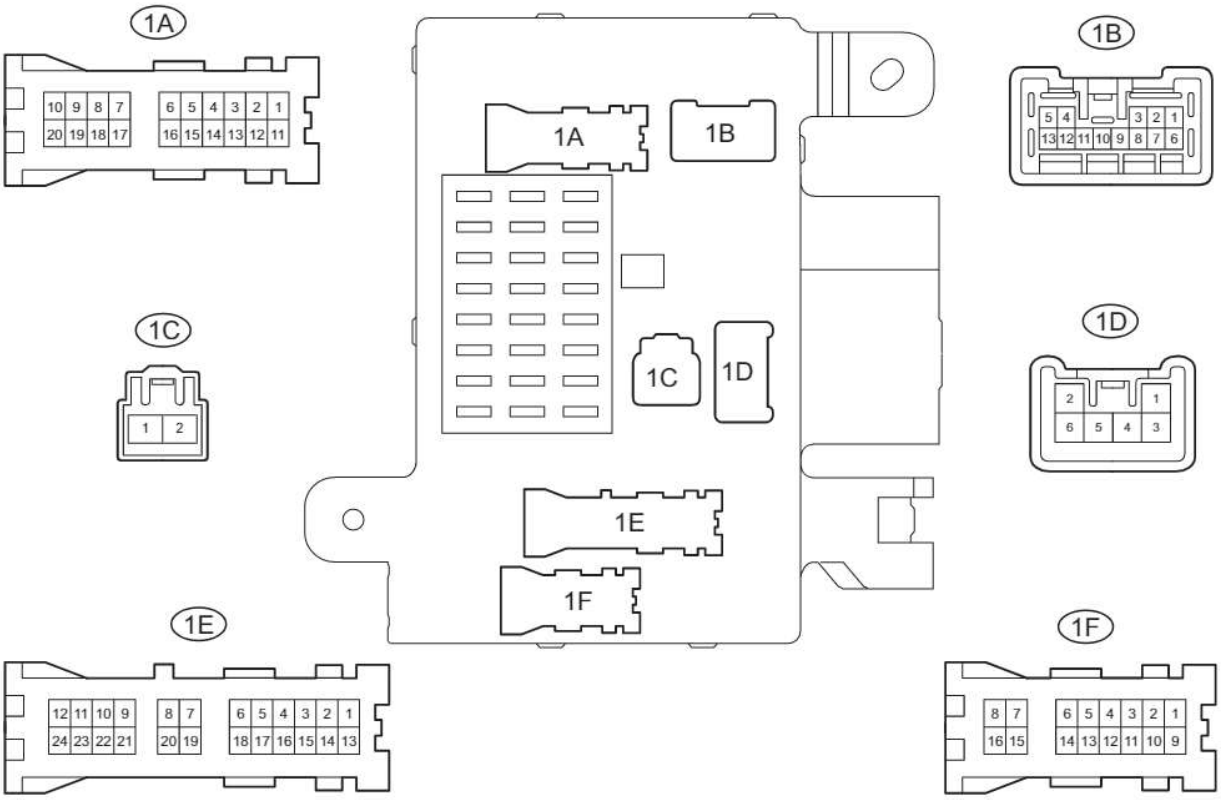
1. CHECK MAIN BODY ECU

Main Body ECU:

Left View:



Rear View:

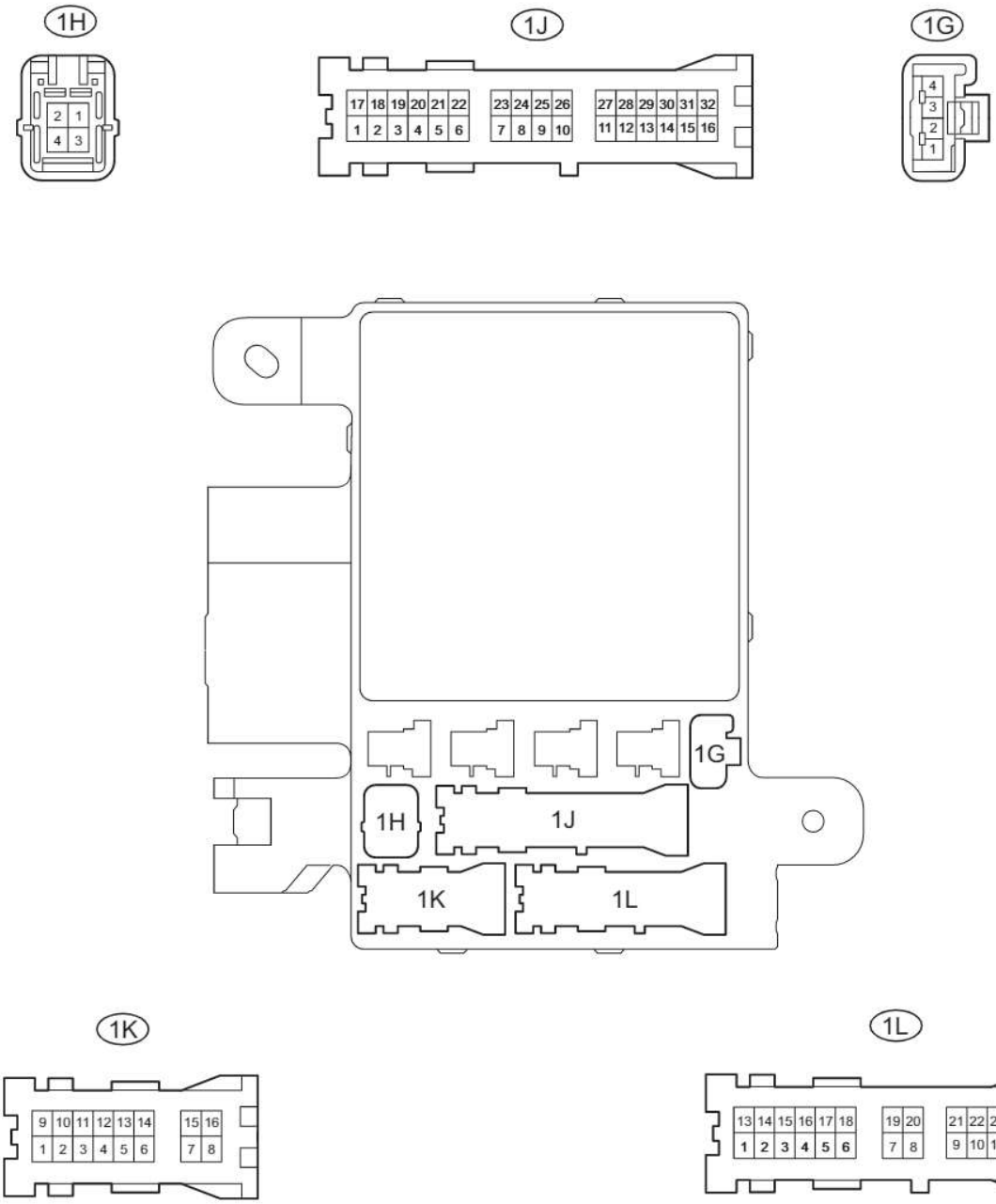


Y

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Main Body ECU:

Front View:



(a) Disconnect the main body ECU connectors.

(b) Measure the voltages of the wire harness side connectors.

Standard voltage:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
GND1 (1H-2) - Body ground	W-B - Body ground	Ground	Always	Below 1V
BECU (1B-4) - Body ground	W-R - Body ground	Power source circuit (From battery)	Always	11 to 14 V
BDR1 (1E-9) - Body ground	B-Y - Body ground	Power source circuit (From battery)	Always	11 to 14 V
GND2 (1H-2) - Body ground)	W-B - Body ground	Ground	Always	Below 1V

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

(c) Reconnect the main body ECU connectors.

(d) Measure the voltage of the wire harness side connectors.

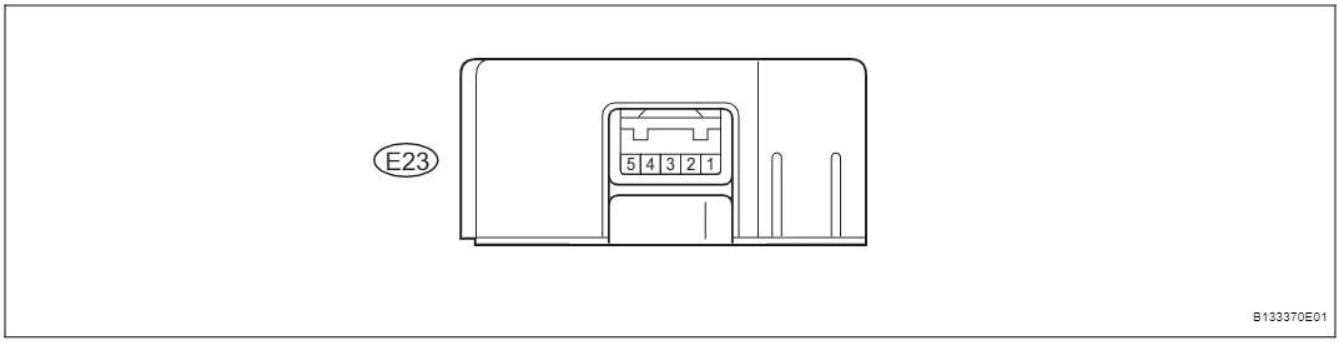
Standard voltage:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
KSW (E8-14) - Body ground	G-Y - Body ground	Key unlock warning switch input	Key inserted → Key removed from ignition key cylinder	Below 1 V → 11 to 14 V
BCTY (E7-7) - Body ground	W - Body ground	Back door courtesy switch and back window courtesy switch input	Back door or back window is open	Below 1V
			Back door and back window are closed	11 to 14 V
RLCY (E7-11) - Body ground	P-B - Body ground	Rear LH door courtesy switch input	Rear LH door open	Below 1V
			Rear LH door closed	11 to 14 V
RRCY (E7-12) - Body ground	P-L - Body ground	Rear RH door courtesy switch input	Rear RH door open	Below 1V
			Rear RH door closed	11 to 14 V
DCTY (E7-23) - Body ground	R-B - Body ground	Driver door courtesy switch input	Driver door open	Below 1V
			Driver door closed	11 to 14 V
PCTY (E7-24) - Body ground	G-Y - Body ground	Front passenger door courtesy switch input	Front passenger door open	Below 1V
			Front passenger door closed	11 to 14 V
PRG (E7-3) - Body ground	G-O - Body ground	Door control receiver output	Transmitter switch ON → OFF (No key in ignition key cylinder, all doors closed)	11 to 14 V → Pulse generation → 11 to 14 V
RDA (E7-4) - Body ground	L-R - Body ground	Door control receiver input	Transmitter switch ON → OFF (No key in ignition key cylinder, all doors closed)	Below 1V → Pulse generation → Below 1V
HAZ (1J-14) - Body ground	W - Body ground	Hazard warning light signal	Answer-back OFF → ON	Pulse generation
BZR (1B-10) - BZR2 (1B-6)	P-B - Y-B	Wireless door lock buzzer signal	Wireless door lock buzzer OFF → ON	Pulse generation

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

DL

2. CHECK DOOR CONTROL RECEIVER



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

Standard:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
+B (E23-5) - GND (E23-1)	R - W-B	Battery (power supply)	Always	11 to 14 V
GND (E23-1) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω

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

(c) Reconnect the door control receiver connector.
(d) Measure the voltage of the wire harness side connector.

DL

Standard voltage:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
PRG (E23-3) - Body ground	G-O - Body ground	Door control receiver output	Transmitter switch ON → OFF (No key in ignition key cylinder, all doors closed)	11 to 14 V → Pulse generation → 11 to 14 V
RDA (E23-2) - Body ground	L-R - Body ground	Door control receiver input	Transmitter switch ON → OFF (No key in ignition key cylinder, all doors closed)	Below 1V → Pulse generation → Below 1V

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

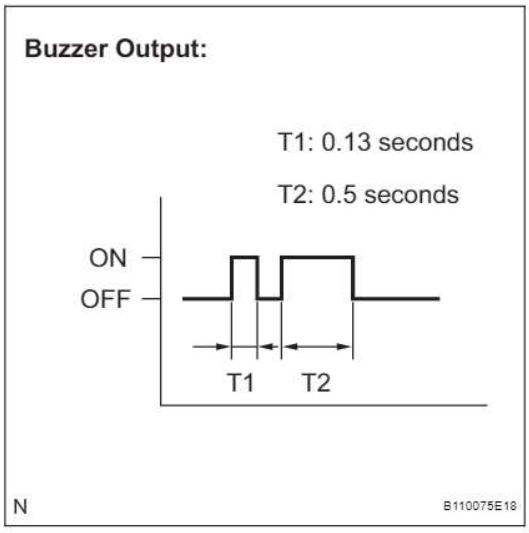
DTC CHECK / CLEAR

1. SELF-DIAGNOSTIC MODE (OPERATING IGNITION KEY CYLINDER)

(a) Switch to self-diagnostic mode.
(1) Establish the vehicle's initial condition.
(2) Insert the key into the ignition key cylinder and remove it.
(3) Within 5 seconds of removing the key, insert it into the ignition key cylinder again.
(4) Turn the ignition switch ON and then OFF.
(5) Within 30 seconds of turning the ignition switch OFF, perform the following operation 9 more times: Turn the ignition switch ON and then OFF.
HINT:
- Turning the ignition switch ON after the procedure above has been completed ends self-diagnostic mode.
- Do not lock or unlock doors while in self-diagnostic mode.

NOTICE:
If the system cannot enter self-diagnostic mode, the system returns to normal mode.

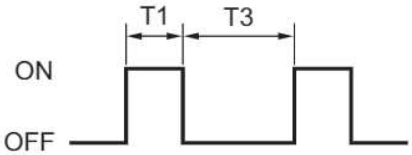
(b) Check that the system has switched to self-diagnostic mode by checking the wireless door lock buzzer sound.



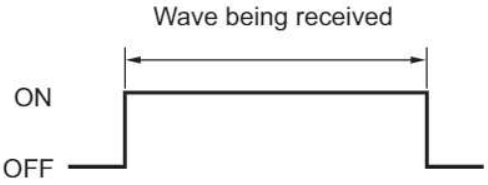
(c) Check the diagnostic outputs when the door control transmitter switch is held down. The diagnostic outputs can be checked by the wireless door lock buzzer sound.

Buzzer Output:

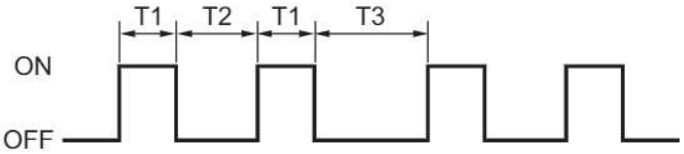
Normal Wave (LOCK Switch):



Mismatched Recognition Code:



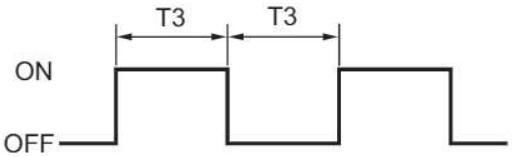
Normal Wave (UNLOCK Switch):



No Diagnosis Output:



Normal Wave (PANIC Switch):



T1: 0.13 seconds

T2: 0.25 seconds

T3: 0.50 seconds

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2. SELF-DIAGNOSTIC MODE (USING INTELLIGENT TESTER)

(a) Switch to self-diagnostic mode.

(1) Connect the intelligent tester to the DLC3.

(2) Turn the ignition switch ON and turn the intelligent tester main switch on.

HINT:

Refer to the intelligent tester operator's manual for further details.

DATA LIST / ACTIVE TEST

1. READ DATA LIST

HINT:

Using the intelligent tester's DATA LIST allows switch, sensor, actuator and other item values to be read without removing any parts. Reading the DATA LIST early in troubleshooting is one way to save time.

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON.
(c) Read the DATA LIST in accordance with the display on the tester.

BODY:

Item	Measurement Item/Display (Range)	Normal Condition	Diagnostic Note
D DOR CTY SW	Driver door courtesy switch signal/ON or OFF	ON :Driver door open OFF: Driver door closed	-
P DOR CTY SW	Front passenger door courtesy switch signal/ON or OFF	ON: Front passenger door open OFF: Front passenger door closed	-
Rr DOR CTY SW	Rear door courtesy switch signal/ ON or OFF	ON: Either right or left rear door open OFF: Both the right and left rear doors are closed	-
LUGG COURTSY SW	Back door and back window courtesy switch signal/ON or OFF	ON: Either back door or back window open OFF: Both the back door and back window are closed	-
KEY UNLK WRN SW	Unlock warning switch / ON or OFF	ON: Ignition key is inserted OFF: Ignition key is not inserted	-

DL

2. PERFORM ACTIVE TEST

HINT:

Performing the intelligent tester's ACTIVE TEST allows relays, VSV, actuators and other items to be operated without removing any parts. Performing the ACTIVE TEST early in troubleshooting is one way to save time. The DATA LIST can be displayed during the ACTIVE TEST.

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON.
(c) Perform the ACTIVE TEST in accordance with the display on the tester.

BODY:

Item	Test Details	Diagnostic Note
BUZZ CONT SOUND	Wireless door lock buzzer (continuous) ON/ OFF	-
BUZZ RESP SOUND	Wireless door lock buzzer (beep) ON/OFF	-
HAZARD	Turns turn signal flasher relay ON / OFF	-

ON-VEHICLE INSPECTION

1. NOTICES WHEN CHECKING

(a) Wireless door LOCK / UNLOCK function:
This function operates only when the vehicle is in its initial condition (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.
- The UNLOCK function operates even when the key is inserted into the ignition key cylinder. However, the ignition switch must be OFF.

(b) The operating range differs depending on the situation.
(1) The operating range differs depending on the user, the way the transmitter is held and the location.
(2) In certain areas, the operating range will be reduced due to the vehicle body shape and the influence of the surrounding environment.
(3) The transmitter's faint electric waves may be affected if the area has strong electric waves or noise. The transmitter's operating range may be reduced or the transmitter may not function.
(4) When the battery weakens, the operating range is reduced or the transmitter may not function.
HINT:
If the transmitter has had prolonged exposure to direct sunlight, such as being left on the instrument panel, the battery may weaken or other problems may occur.

DL

2. CHECK WIRELESS DOOR LOCK CONTROL FUNCTIONS

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

(a) Make sure the vehicle is in a condition in which the wireless control functions can be operated (see above).

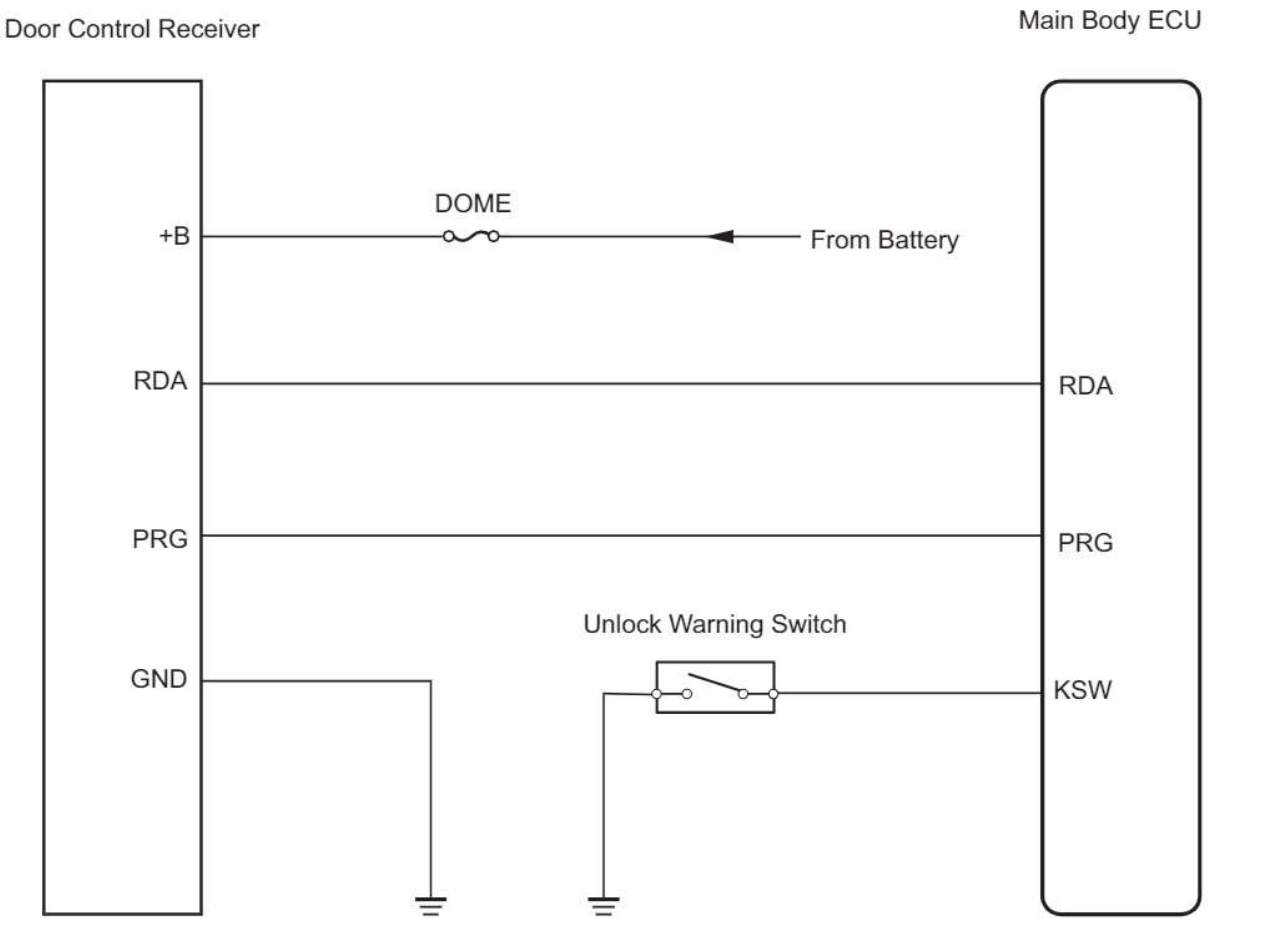
(b) Check the chattering prevention function.
  (1) When a switch is pressed, check that the corresponding operation occurs only once. When the switch is held down, check that the corresponding operation occurs only once and does not repeatedly activate. Lastly, when the switch is pressed at 1 second intervals, check that the corresponding operation activates once for each press of the switch.
(c) Check the automatic locking function.
  (1) When all doors are unlocked with the UNLOCK switch and none of the doors are opened or locked within 60 seconds, check that the doors are relocked automatically.
(d) Check the switch operation fail-safe function.
  (1) If the key is in the ignition key cylinder, check that the doors cannot be locked by the LOCK switch. However, this does not apply when the system is in recognition code registration mode.
(e) Check the answer-back function.
  (1) When the LOCK switch is pressed, check that the hazard warning lights flash once, the wireless door lock buzzer sounds once and all doors are locked.
  (2) When the UNLOCK switch is pressed, check that the hazard warning lights flash twice, the wireless door lock buzzer sounds twice and all doors are unlocked.

Only Wireless Control Function is Inoperative

DESCRIPTION

The door control receiver receives signals from the transmitter and sends these signals to the main body ECU.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	CHECK WIRELESS DOOR LOCK CONTROL FUNCTIONS

OK:

Each function of wireless door lock control system operates normally using transmitter switches (see page DL-54).

OK	END

NG

2	REPLACE TRANSMITTER BATTERY

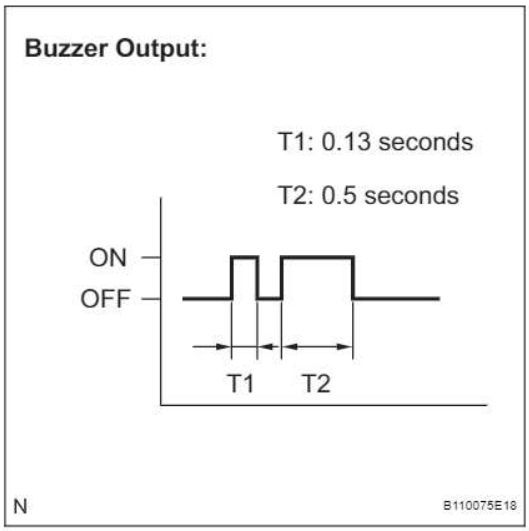
(a) After replacing the transmitter battery, check that the doors can be locked and unlocked using the transmitter switches.
OK:
Doors can be locked and unlocked with transmitter.

OK → **END (TRANSMITTER BATTERY DEFECTIVE)**

NG

3	SWITCH TO SELF DIAGNOSTIC MODE

(a) Switch to self-diagnostic mode by operating the ignition key cylinder.
(1) Make sure the vehicle is in its initial condition. Then insert the key into the ignition key cylinder and remove it.
(2) Within 5 seconds of removing the key, insert the key into the ignition key cylinder (ignition switch OFF). Then turn the ignition switch ON and OFF.
(3) Within 30 seconds of turning the ignition switch OFF, perform the following operation 9 times: turn the ignition switch ON and OFF.
NOTICE:
If the system cannot enter self-diagnostic mode, the system returns to normal mode.
HINT:
- Turning the ignition switch ON after the above operations have been completed ends self-diagnostic mode.
- Do not lock or unlock doors during self-diagnostic mode.



(b) Check that the system has switched to self-diagnostic mode by checking the wireless door lock buzzer sound.
OK:
Buzzer pattern is same as illustration on left.

NG → **Go to step 8**

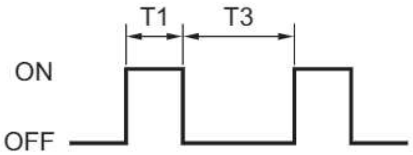
OK

4	CHECK BY SELF DIAGNOSTIC MODE

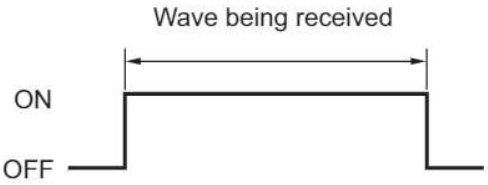
(a) Check the diagnostic outputs when the door control transmitter switch is held down. The diagnostic outputs can be checked by the wireless door lock buzzer sound.

Buzzer Output:

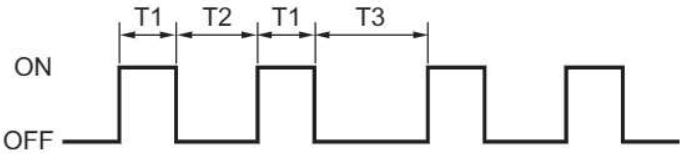
Normal Wave (LOCK Switch):



Mismatched Recognition Code:



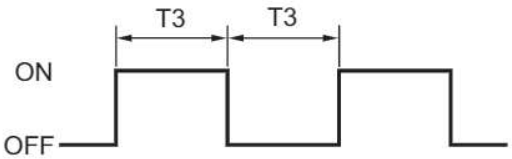
Normal Wave (UNLOCK Switch):



No Diagnosis Output:



Normal Wave (PANIC Switch):



T1: 0.13 seconds

T2: 0.25 seconds

T3: 0.50 seconds

B133371E01

Result

Result	Proceed to
Unmatching recognition code is output	A
Normal waves (buzzer patterns) for LOCK and UNLOCK switches are output	B
No diagnosis outputs	C

B	REPLACE MAIN BODY ECU
C	Go to step 6

A

5	REGISTER RECOGNITION CODE

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

OK:

Recognition code can be registered.

NG	Go to step 12

OK

END

6	CHECK RESPONSE OF DOOR CONTROL RECEIVER

(a) When a new or normally functioning door lock control transmitter switch for the same vehicle type is held down, check that an unmatching recognition code is output.

OK:

Unmatching recognition code is output.

OK	REPLACE DOOR CONTROL TRANSMITTER MODULE

NG

7	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 and UNLOCK switches.

OK:

Doors can be locked and unlocked with transmitter.

NG	REPLACE MAIN BODY ECU

OK

END

8	CONFIRM PROCEDURES TO ENTER SELF DIAGNOSTIC MODE

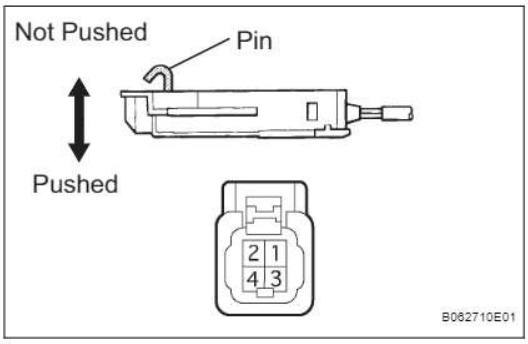
Result

Result	Proceed to
Self-diagnostic mode entry successful	A
Self-diagnostic mode entry unsuccessful	B

B → Go to step 3

A

9	INSPECT UNLOCK WARNING SWITCH ASSEMBLY



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

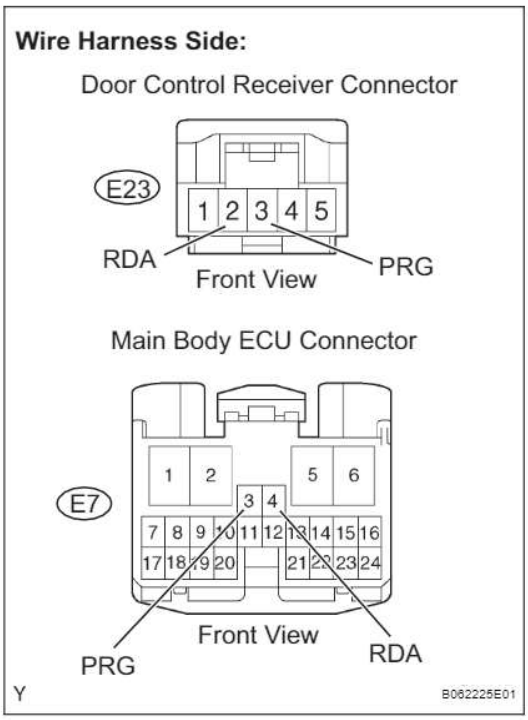
Tester Connection	Condition	Specified Condition
1 - 2	Not pushed	10 kΩ or higher
	Pushed	Below 1 Ω

NG → REPLACE UNLOCK WARNING SWITCH ASSEMBLY

DL

OK

10	CHECK HARNESS AND CONNECTOR (DOOR CONTROL RECEIVER - MAIN BODY ECU)



(a) Disconnect the E7 main body ECU connector.
(b) Disconnect the E23 door control receiver connector.
(c) Measure the resistance.
Standard resistance

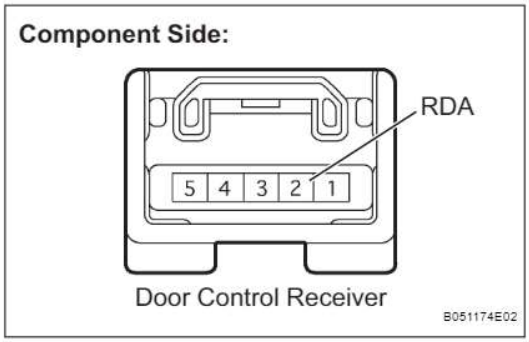
Tester Connection	Specified Condition
E7-4 (RDA) - E23-2 (RDA)	Below 1 Ω
E7-4 (RDA) or E23-2 (RDA) - Body ground	10 kΩ or higher
E7-3 (PRG) - E23-3 (PRG)	Below 1 Ω
E7-3 (PRG) or E23-3 (PRG) - Body ground	10 kΩ or higher

(d) Reconnect the main body ECU connector.
(e) Reconnect the door control receiver connector.

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

11	CHECK DOOR CONTROL RECEIVER (OUTPUT)



(a) Measure the voltage of the connector.
Standard voltage

Tester Connection	Condition	Specified Condition
E23-2 (RDA) - Body ground	Transmitter switch ON→OFF (No key in ignition key cylinder, all doors closed)	Below 1V → Pulse generation → Below 1V

OK → REPLACE MAIN BODY ECU

NG

12	REPLACE DOOR CONTROL TRANSMITTER MODULE

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

NG → REPLACE DOOR CONTROL RECEIVER

OK

END (DOOR CONTROL TRANSMITTER MODULE DEFECTIVE)

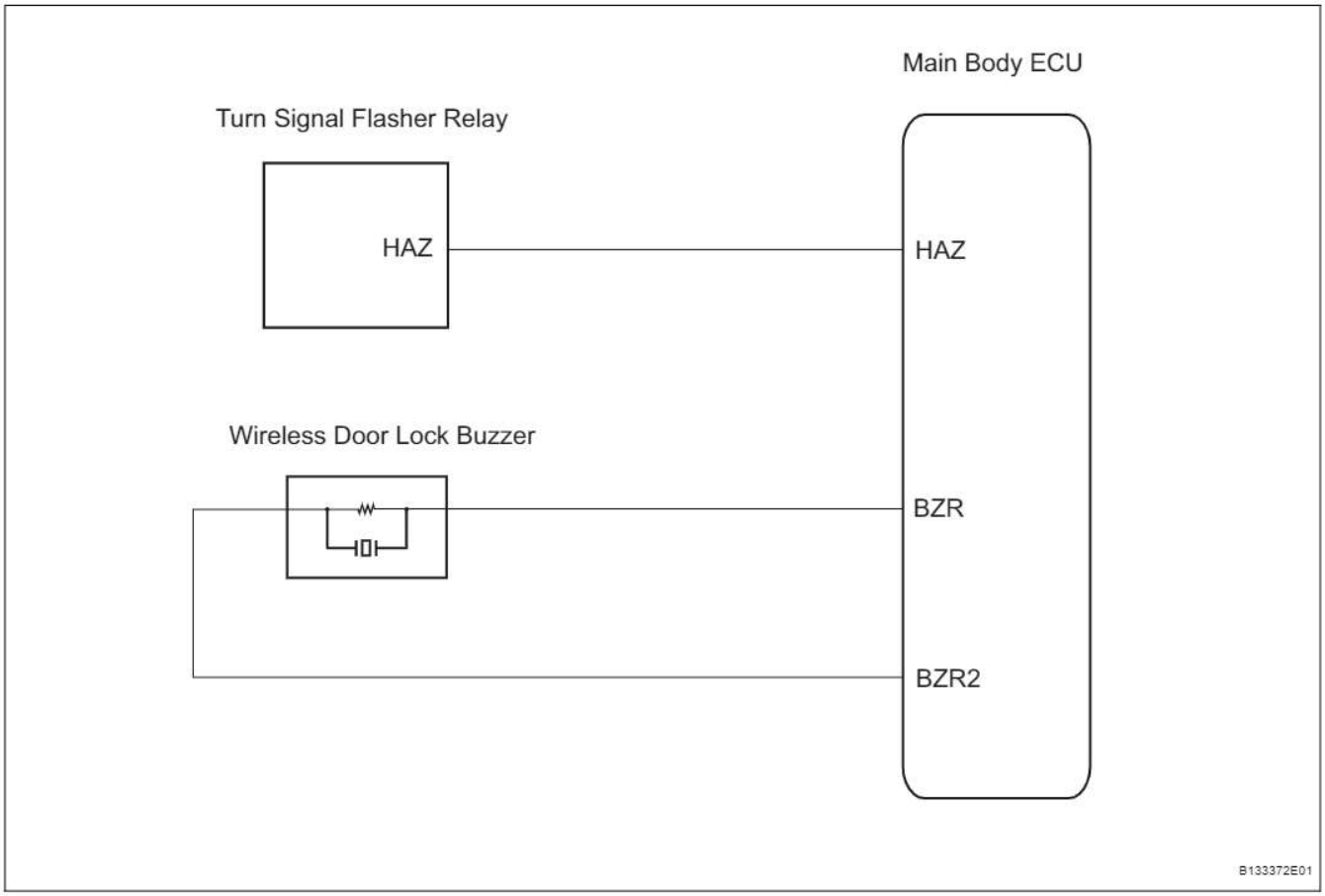
DL

No Answer-Back

DESCRIPTION

In this case, wireless control functions are normal but the hazard warning light or wireless door lock buzzer answer-back function does not operate.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	CHECK WIRELESS DOOR LOCK CONTROL FUNCTIONS

(a) Check the wireless door lock functions by operating the transmitter switches.

Result

Result	Proceed to
Wireless door lock functions are normal	A
Wireless door lock functions are abnormal	B

B → GO TO PROBLEM SYMPTOMS TABLE

A

2	PERFORM ACTIVE TEST BY INTELLIGENT TESTER (HAZ, BUZZ CONT SOUND, BUZZ RESP SOUND)

(a) Select the Active Test, use the intelligent tester to generate a control command, and then check that the wireless door lock buzzer sounds.

BODY

Item	Test Details	Diagnostic Note
HAZARD	Turns turn signal flasher relay ON / OFF	-
BUZZ CONT SOUND	Wireless door lock buzzer (continuous) ON/OFF	-
BUZZ RESP SOUND	Wireless door lock buzzer (beep) ON/OFF	-

Result

Result	Proceed to
Hazard warning light answer-back function does not operate	A
Wireless door lock buzzer answer-back function does not operate	B
Hazard warning light and wireless door lock buzzer answer-back function is normal	C

B → Go to step 4

C → REPLACE MAIN BODY ECU

A

3	CHECK HAZARD WARNING LIGHTS

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

OK:

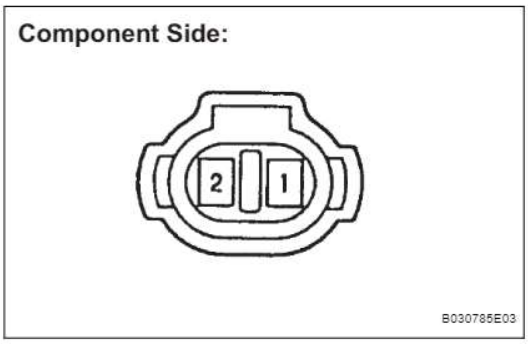
Hazard warning lights flash when hazard warning signal switch is pressed.

NG → GO TO LIGHTING SYSTEM

OK

REPLACE MAIN BODY ECU

4	INSPECT WIRELESS DOOR LOCK BUZZER



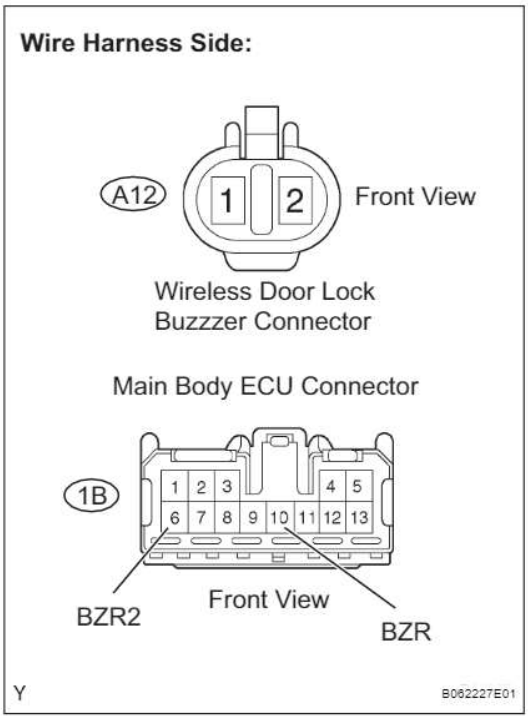
(a) Disconnect the clutch switch connector.
(b) Measure the resistance.
Standard resistance

Tester Connection	Specified Condition
1 - 2	Below 1 Ω

NG → REPLACE WIRELESS DOOR LOCK BUZZER

OK

5	CHECK HARNESS AND CONNECTOR (WIRELESS DOOR LOCK BUZZER - MAIN BODY ECU)



(a) Disconnect the A12 buzzer connector.
(b) Disconnect the 1B main body ECU connector.
(c) Measure the resistance.
Standard resistance

Tester Connection	Specified Condition
1B-10 (BZR) - A12-1	Below 1 Ω
1B-6 (BZR2) - A12-2	Below 1 Ω
1B-10 (BZR) orA12-1 - Body ground	10 kΩ or higher
1B-6 (BZR2) or A12-2 - Body ground	10 kΩ or higher

(d) Reconnect the buzzer connector.
(e) Reconnect the main body ECU connector.

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

KEY REMINDER WARNING SYSTEM

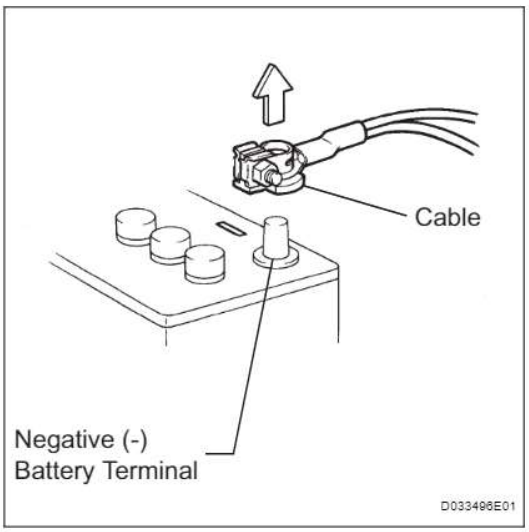
PRECAUTION

1. DISCONNECT AND RECONNECT CABLE OF NEGATIVE BATTERY TERMINAL

NOTICE:

When disconnecting the cable from the negative (-) battery terminal, initialize the following systems after the cable is reconnected.

System Name	See procedure
METER / GAUGE SYSTEM	See pageME-10



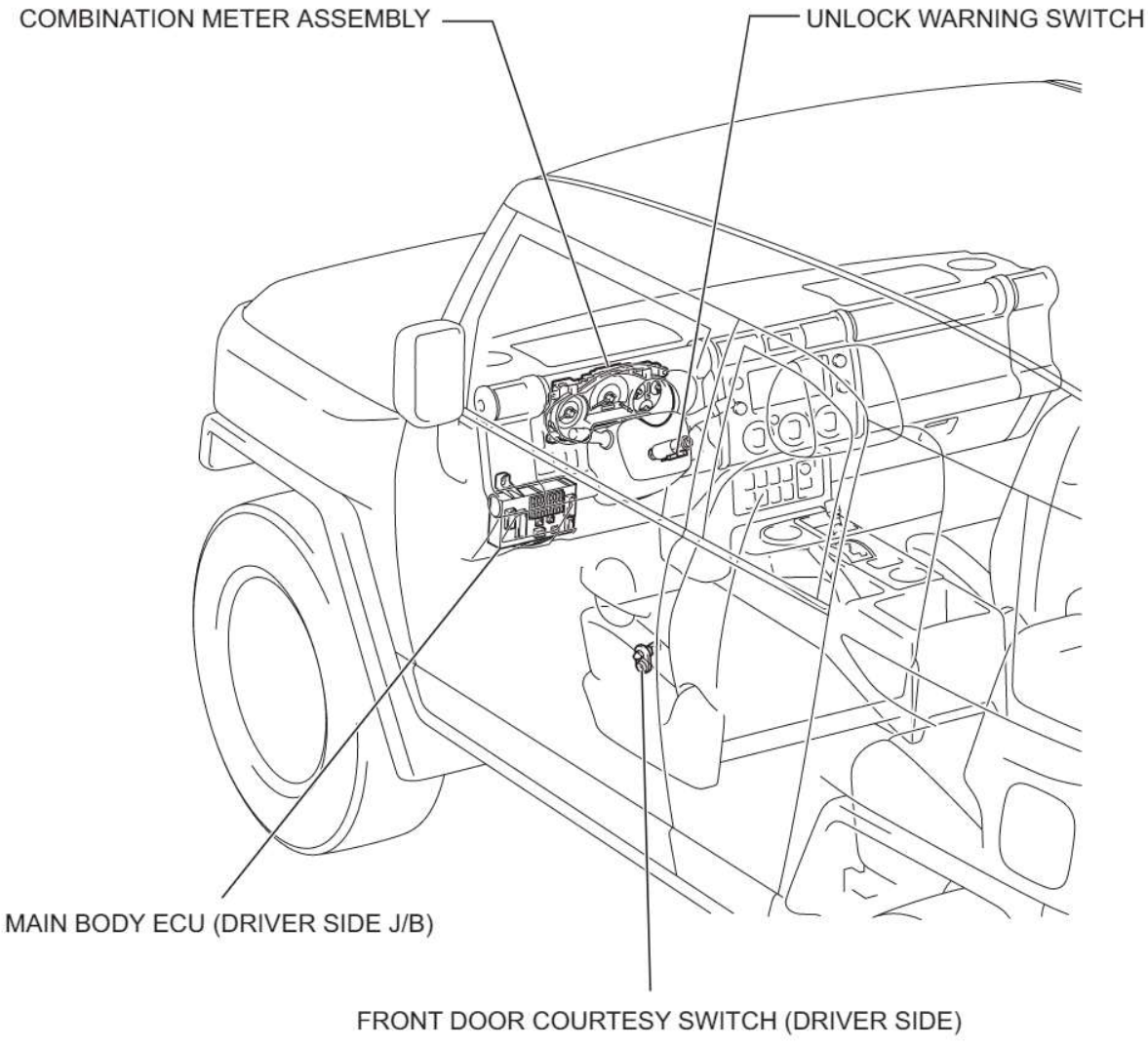
(a) Before performing electronic work, disconnect the cable from the negative (-) battery terminal in order to prevent it from shorting and burning out.

(b) Before disconnecting and reconnecting the battery cable, turn the ignition switch OFF and the headlight dimmer switch OFF. Then loosen the terminal nut completely. Do not damage the cable or terminal.

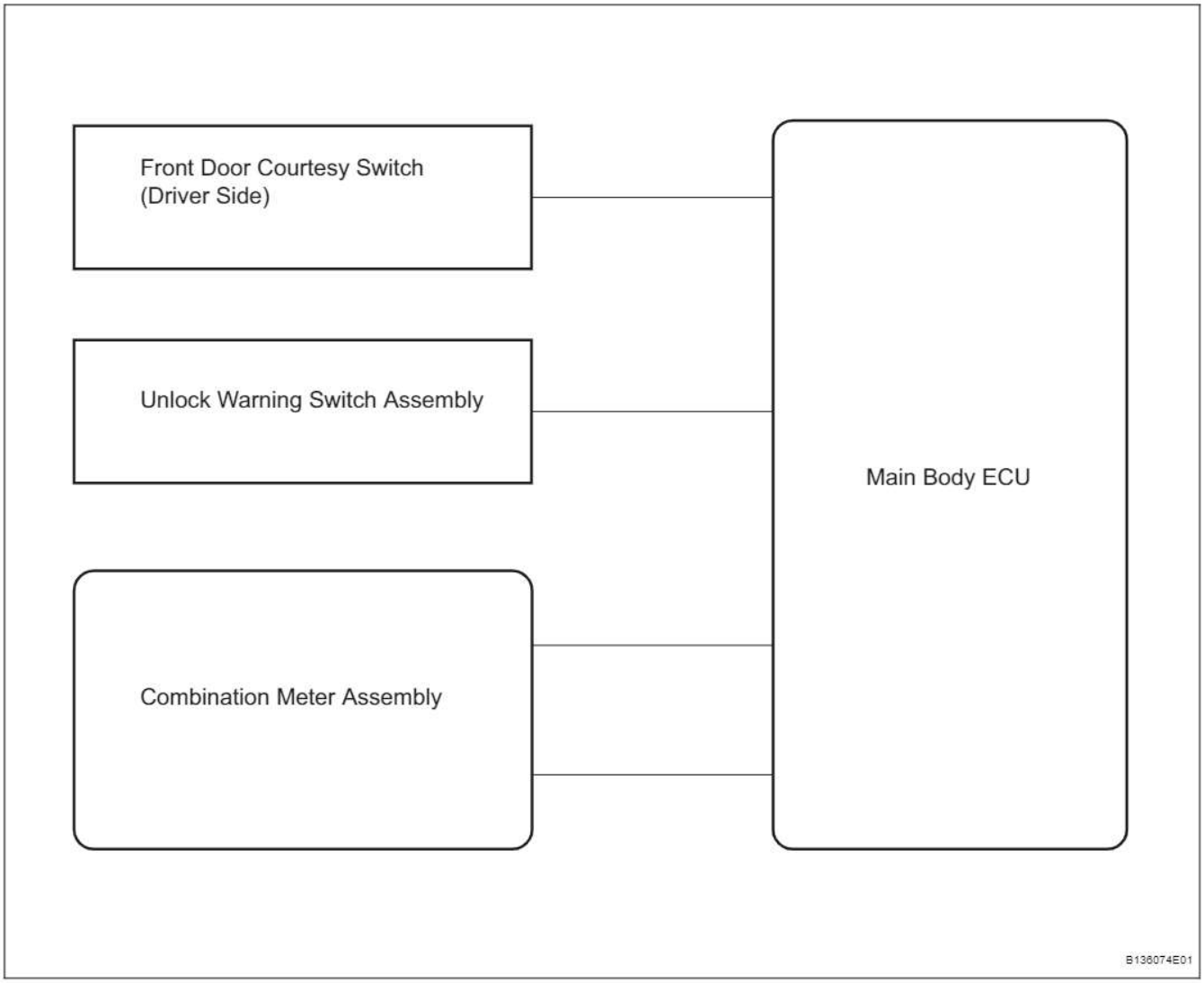
(c) When the battery cable is disconnected, the clock and radio settings and stored DTCs are erased. Therefore, before disconnecting the battery cable, make a notes of them.

DL

PARTS LOCATION



SYSTEM DIAGRAM



SYSTEM DESCRIPTION

1. KEY REMINDER WARNING SYSTEM DESCRIPTION

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

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- Use these procedures to troubleshoot the key reminder warning system.
- *: Use the intelligent tester.

1	VEHICLE BROUGHT TO WORKSHOP

NEXT

2	INSPECT BATTERY VOLTAGE

Standard voltage:
11 to 14 V

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

NEXT

3	PROBLEM SYMPTOMS TABLE

DL

Result:

Result	Proceed to
Fault is not listed in problem symptoms table	A
Fault is listed in problem symptoms table	B

B → **Go to step 5**

A

4	OVERALL ANALYSIS AND TROUBLESHOOTING*

(a) Terminals of ECU (see page DL-70)
(b) Operation Check (see page DL-70)
(c) Data list/ Active test (see page DL-74)

NEXT

5	ADJUST, REPAIR OR REPLACE

NEXT

6	CONFIRMATION TEST

NEXT

END

OPERATION CHECK

1. CHECK FUNCTION

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

(b) Check that the key reminder warning 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 switch is off).
    - Turn the ignition switch ON.
    - Remove the key from the ignition key cylinder.

PROBLEM SYMPTOMS TABLE

HINT:
Use the table below to help determine the causes of the problem symptom. The potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

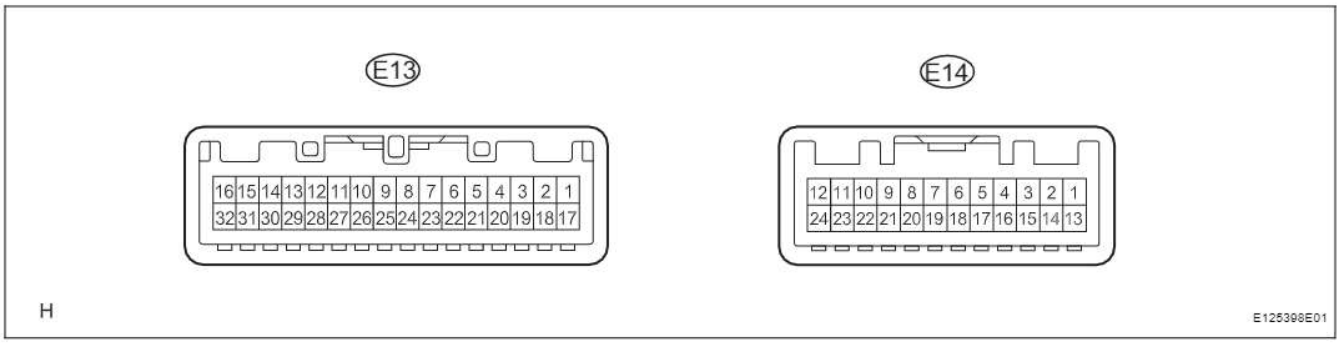
Key reminder warning system

Symptom	Suspected area	See page
Key reminder buzzer does not sound	Unlock warning switch assembly	DL-102
	Front door courtesy switch (Driver side)	LI-114
	Wire harness	-
	Combination meter assembly	ME-49
	Main body ECU	DL-70

DL

TERMINALS OF ECU

1. CHECK COMBINATION METER ASSEMBLY



(a) Using the tester probes, touch the terminals from the back of the vehicle wire harness connectors, and measure the voltages and resistances.

Standard:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
IG+ (E13-2) - Body ground	R-L - Body ground	Ignition switch signal	Ignition switch OFF → ON	Below 1 V → 11 to 14 V
B (E13-1) - Body ground	R - Body ground	Battery	Always	11 to 14 V
KSW (E13-9) - Body ground	V-G - Body ground	Key unlock warning switch signal input	Key inserted → Key removed from ignition key cylinder	Below 1 V → 10 to 14 V
DOOR (E13-29) - Body ground	W-L - Body ground	Driver door courtesy switch signal input	Driver door closed → open	Below 1 V → 11 to 14 V
ES (E13-21) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω

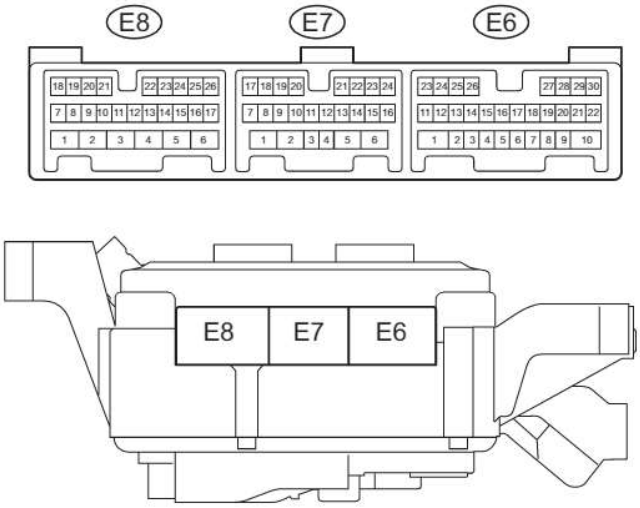
If the result is not as specified, there may be a malfunction in the wire harness.

DL

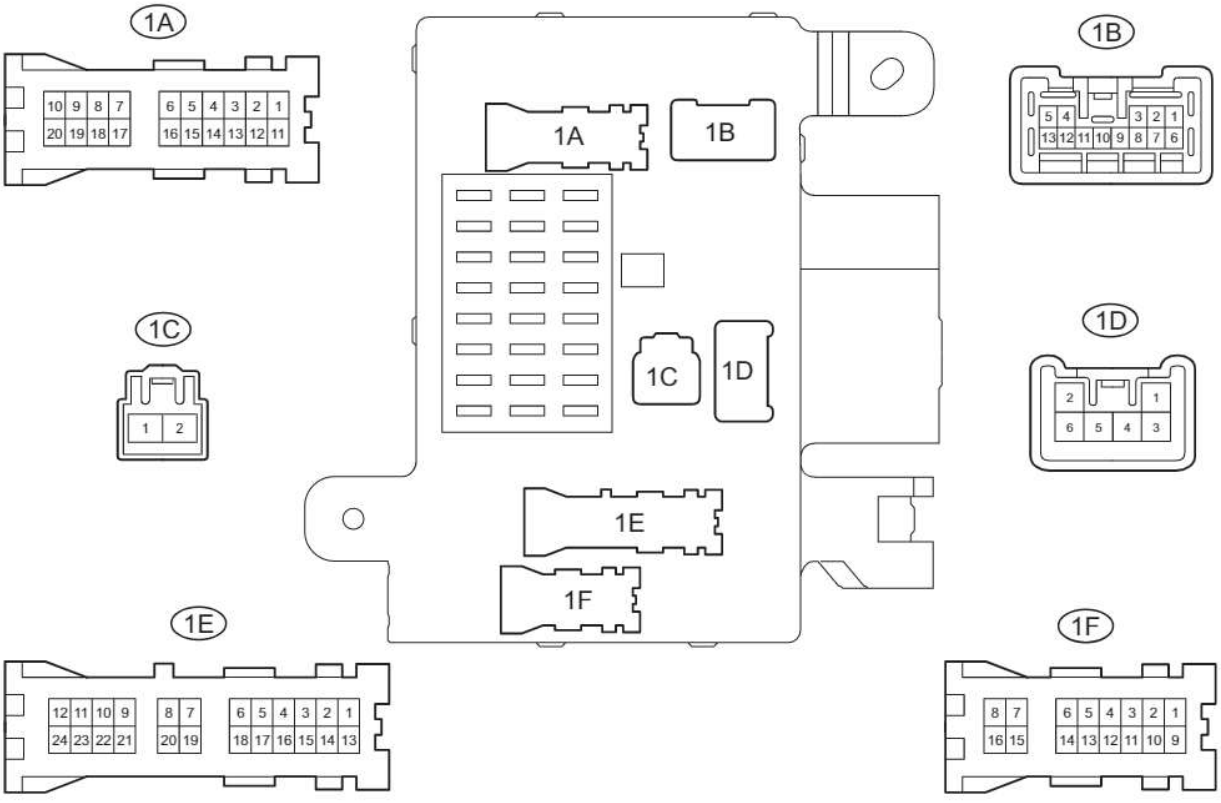
2. CHECK MAIN BODY ECU

Main Body ECU:

Left View:



Rear View:



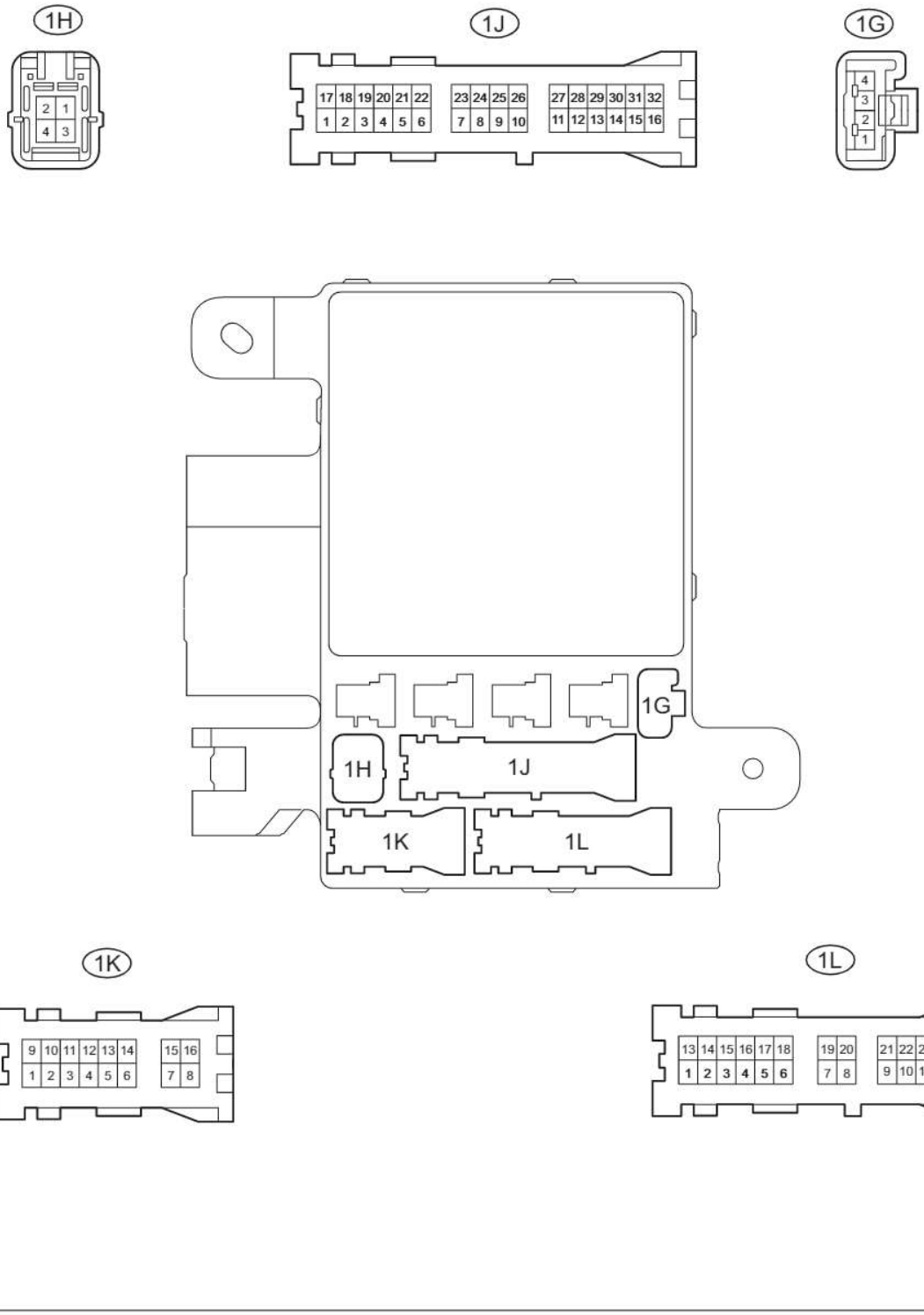
Y

B136051E01

DL

Main Body ECU:

Front View:



Y

B136052E01

(a) Using the tester probes, touch the terminals from the back of the vehicle wire harness connectors, and measure the voltages.

Standard voltage:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
KSW (E8-14) - Body ground	G-Y - Body ground	Key unlock warning switch input	Key inserted → Key removed from ignition key cylinder	Below 1 V → to 14 V
GND1,2 (1H-2) - Body ground	W-B - Body ground	Ground	Always	Below 1 V
BECU (1B-4) - Body ground	W-R - Body ground	Battery	Always	to 14 V
DCTY (E7-23) - Body ground	R-B - Body ground	Driver door courtesy switch input	Driver door closed → open	to 14 V → Below 1 V
KSWO (E8-15) - Body ground	V-G - Body ground	Key unlock warning switch signal output	Key inserted → Key removed from ignition key cylinder	Below 1 V → to 14 V
DCY2 (E8-11) - Body ground	W-L - Body ground	Driver door courtesy switch signal output	Driver door closed → open	10 to 14 V → Below 1 V

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

DL

DATA LIST / ACTIVE TEST

1. READ DATA LIST

HINT:

Using the intelligent tester's DATA LIST allows a switch, actuator and other item values to be read without removing any parts. Reading the DATA LIST early in troubleshooting is one way to save time.

(a) Connect the intelligent tester with CAN VIM to the DLC3.

(b) Turn the ignition switch ON.

(c) Read the DATA LIST.

BODY:

Item	Measurement Item / Display (Range)	Normal Condition	Diagnostic Note
KEY UNLK WRN SW	Unlock warning switch signal /ON or OFF	ON: Key is in ignition key cylinder OFF: No key is in ignition key cylinder	-
D DOR CTY SW	Driver side door courtesy switch signal /ON or OFF	ON: Driver side door is open OFF: Driver side door is closed	-

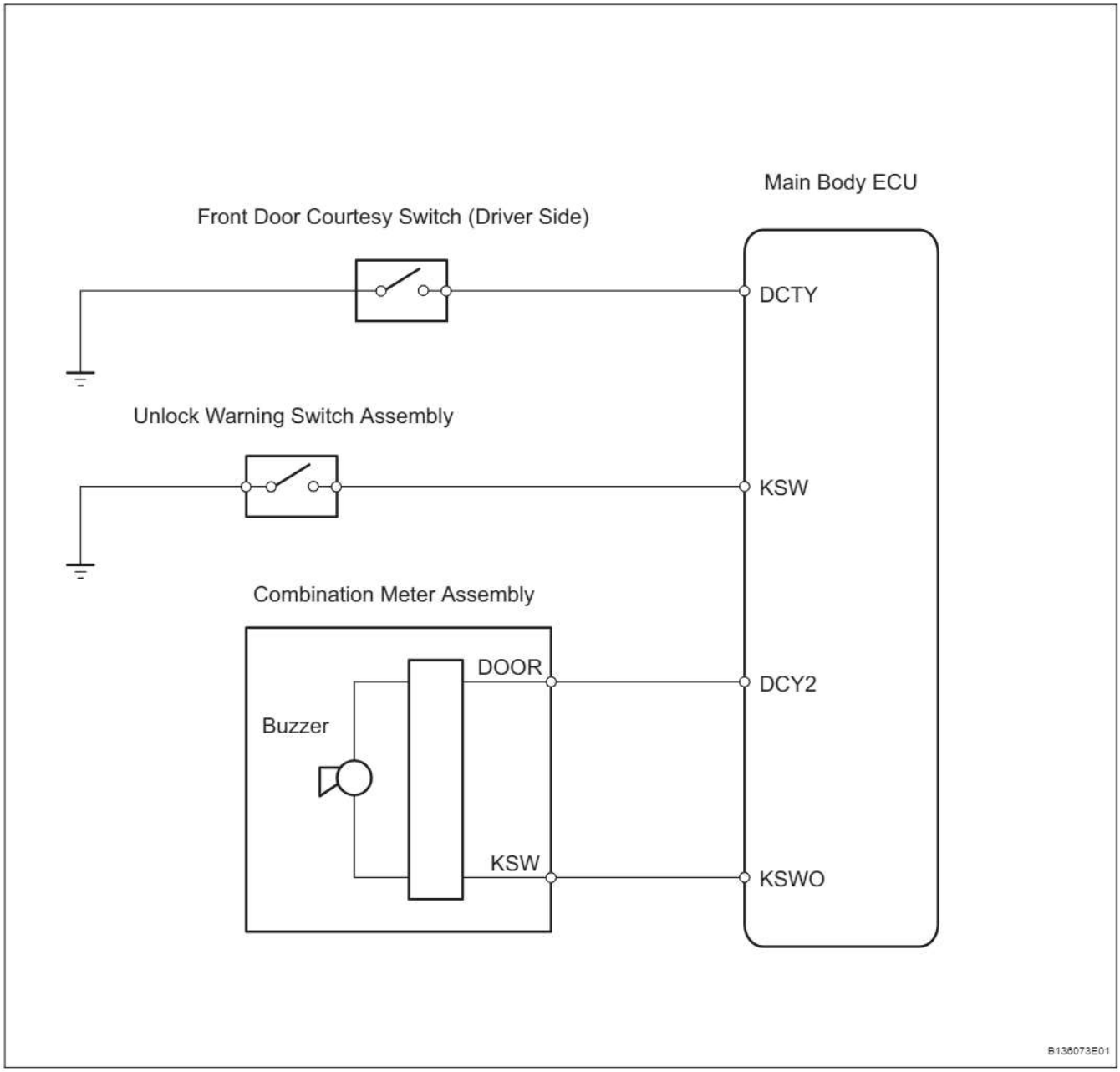
DL

Key Reminder Buzzer does not Sound

DESCRIPTION

The key reminder warning buzzer sounds when the driver side door is opened while the ignition switch is in the LOCK or ACC position. The key reminder warning buzzer is activated when the main body ECU sends a key switch signal and driver side courtesy switch signal to the combination meter.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	READ VALUE OF INTELLIGENT TESTER (D DOR CTY SW)

(a) Connect the intelligent tester with CAN VIM to the DLC3.

(b) Turn the ignition switch ON and turn the intelligent tester main switch ON.
(c) Select the items below in the "DATA LIST" and read the display on the intelligent tester.

BODY

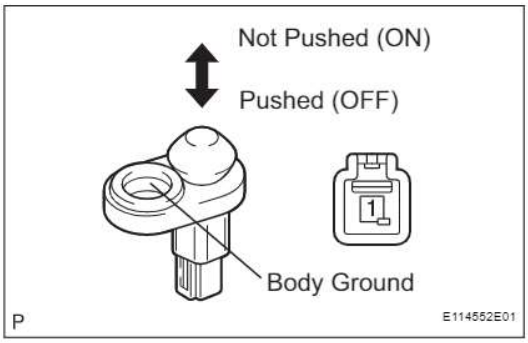
Item	Measurement Item / Display (Range)	Normal Condition	Diagnostic Note
D DOR CTY SW	Driver side door courtesy switch signal / ON or OFF	ON: Driver side door is open OFF: Driver side door is closed	-

OK:
When the driver side door is opened/closed, the display will change as shown above.

OK → Go to step 4

NG

2 INSPECT FRONT DOOR COURTESY SWITCH (DRIVER SIDE)



(a) Remove the front door courtesy switch (driver side).
(b) Measure the resistance.
Standard resistance

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

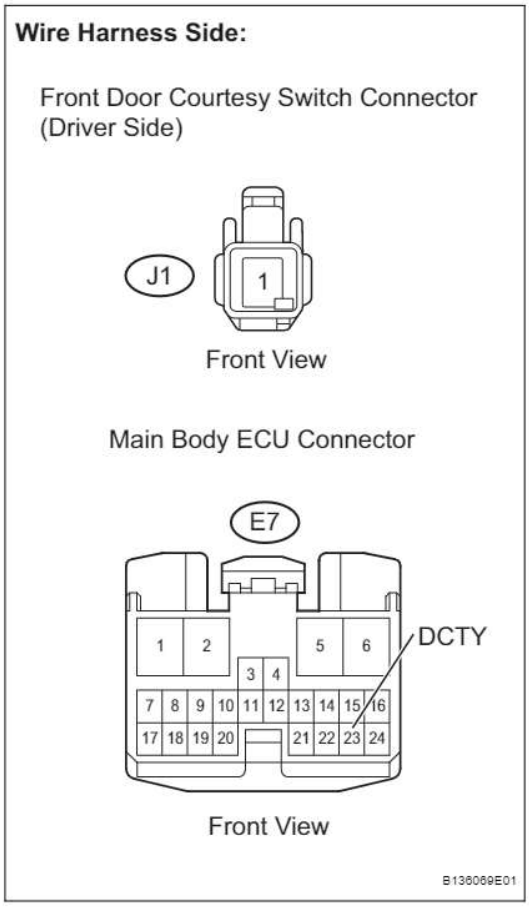
(c) Reinstall the front door courtesy switch (driver side).

NG → REPLACE FRONT DOOR COURTESY SWITCH (DRIVER SIDE)

OK

DL

3	CHECK HARNESS AND CONNECTOR (FRONT DOOR COURTESY SWITCH (DRIVER SIDE) - MAIN BODY ECU)



(a) Disconnect the J1 front door courtesy switch (driver side) connector.
(b) Disconnect the E7 main body ECU connector.
(c) Measure the resistance.

Standard resistance

Tester Connection	Specified Condition
J1-1 - E7-23 (DCTY)	Below 1 Ω
J1-1 or E7-23 (DCTY) - Body ground	10 kΩor higher

(d) Reconnect the courtesy switch and main body ECU connectors.

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

4	READ VALUE OF INTELLIGENT TESTER (KEY UNLK WRN SW)

(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON and turn the intelligent tester main switch ON.
(c) Select the item below in the "DATA LIST" and read the display on the intelligent tester.

BODY

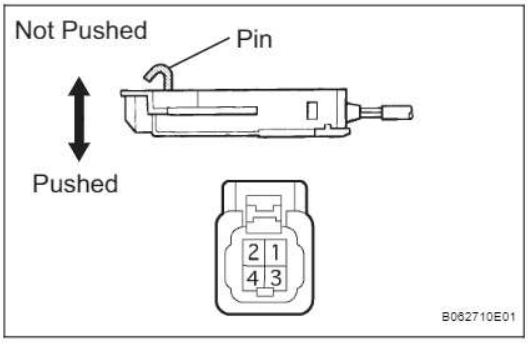
Item	Measurement Item / Display (Range)	Normal Condition	Diagnostic Note
KEY UNLK WRN SW	Unlock warning switch signal / ON or OFF	ON: Key is in ignition key cylinder OFF: No key is in ignition key cylinder	-

OK:
When the ignition key is operated, the display changes as shown above.

OK → Go to step 7

NG

5 INSPECT UNLOCK WARNING SWITCH ASSEMBLY



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

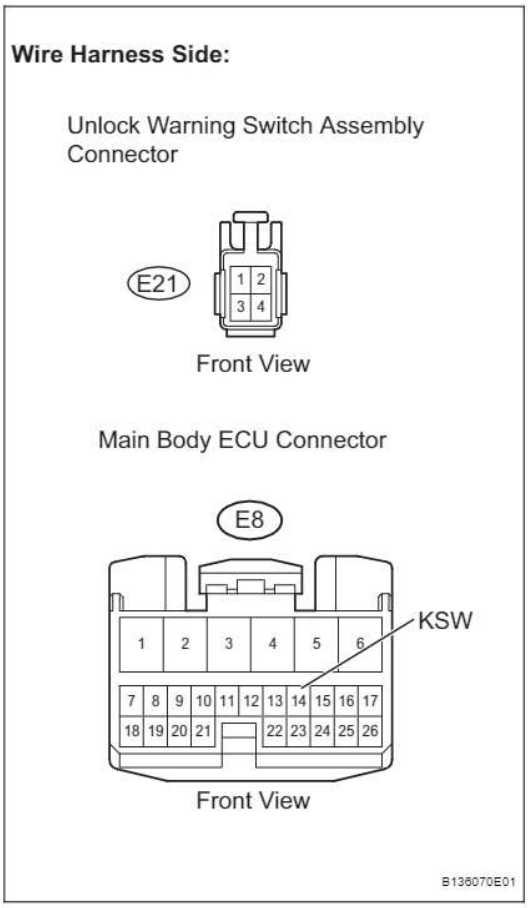
Tester Connection	Condition	Specified Condition
1 - 2	Not pushed	10 kΩor higher
1 - 2	Pushed	Below 1 Ω

(c) Reinstall the unlock warning switch assembly.

NG → **REPLACE UNLOCK WARNING SWITCH ASSEMBLY**

OK

6 CHECK HARNESS AND CONNECTOR (UNLOCK WARNING SWITCH ASSEMBLY - MAIN BODY ECU)



(a) Disconnect the E21 unlock warning switch assembly connector.
(b) Disconnect the E8 main body ECU connector.
(c) Measure the resistance.
Standard resistance

Tester Connection	Specified Condition
E21-1 - E8-14 (KSW)	Below 1 Ω
E21-1 or E8-14 (KSW) - Body ground	10 kΩor higher
E21-2 - Body ground	Below 1 Ω

(d) Reconnect the unlock warning switch and the main body ECU connectors.

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

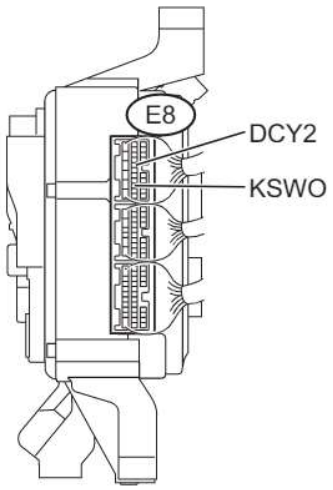
OK

DL

7 INSPECT MAIN BODY ECU

Main Body ECU:

Left View:



B136071E01

(a) Measure the voltage.
Standard voltage

Tester Connection	Condition	Specified Condition
E8-15 (KSWO) - Body ground	Key is in ignition key cylinder	Below 1 V
E8-15 (KSWO) - Body ground	No key is in ignition key cylinder	10 to 14 V
E8-11 (DCY2) - Body ground	Driver side door is open	Below 1 V
E8-11 (DCY2) - Body ground	Driver side door is closed	10 to 14 V

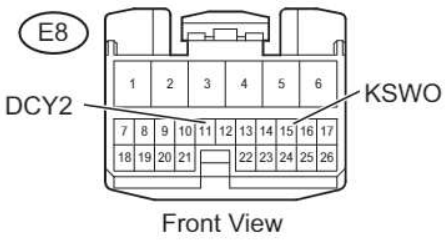
NG → REPLACE MAIN BODY ECU

OK

8 CHECK HARNESS AND CONNECTOR (COMBINATION METER ASSEMBLY - MAIN BODY ECU)

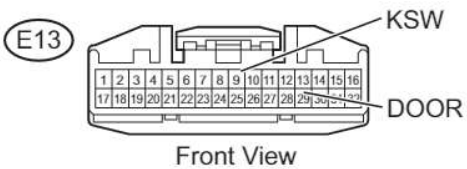
Wire Harness Side:

Main Body ECU Connector



Front View

Combination Meter Assembly Connector



Front View

B136072E01

(a) Disconnect the E8 main body ECU connector.
(b) Disconnect the E13 combination meter assembly connector.
(c) Measure the resistance.
Standard resistance

Tester Connection	Specified Condition
E8-15 (KSWO) - E13-9 (KSW)	Below 1 Ω
E8-15 (KSWO) or E13-9 (KSW) - Body ground	10 kΩor higher
E8-11 (DCY2) - E13-29 (DOOR)	Below 1 Ω
E8-11 (DCY2) or E13-29 (DOOR) - Body ground	10 kΩor higher

(d) Reconnect the main body ECU and combination meter assembly connectors.

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

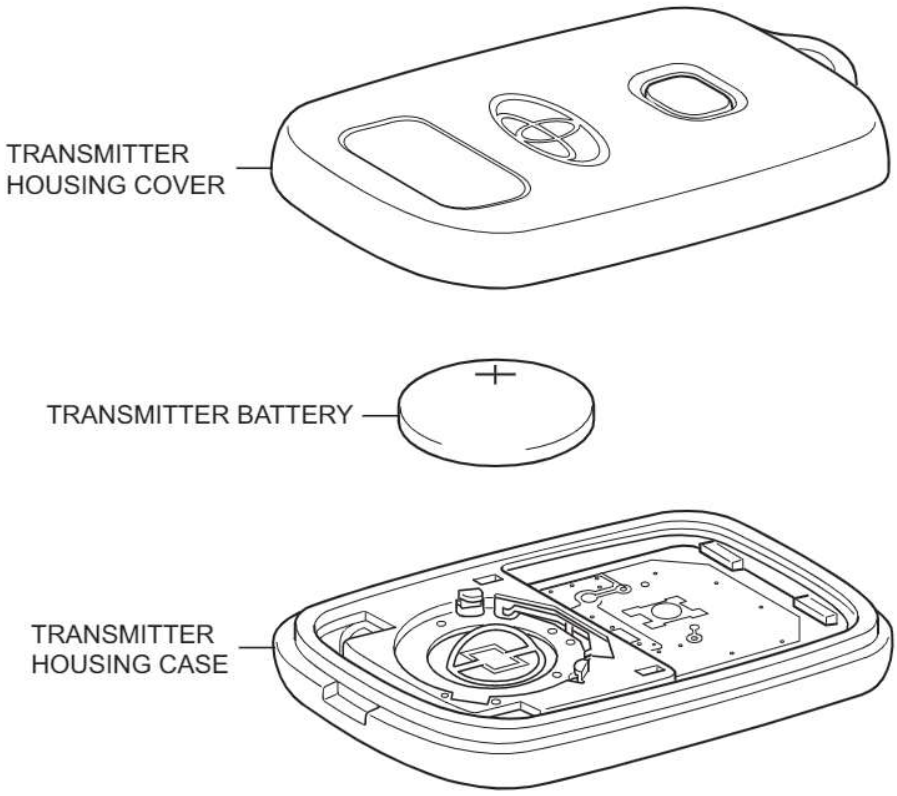
DL

OK

REPLACE COMBINATION METER ASSEMBLY

TRANSMITTER BATTERY

COMPONENTS



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REMOVAL

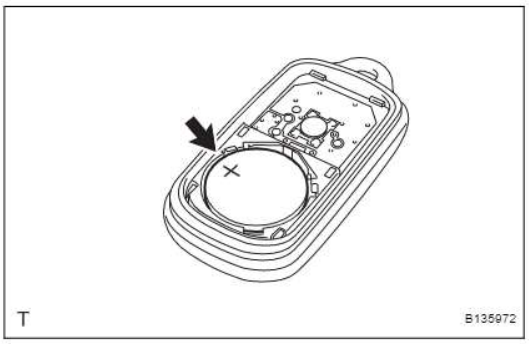
1. REMOVE TRANSMITTER BATTERY

(a) Remove the transmitter battery.

(1) Using a screwdriver with its tip wrapped in protective tape, pry apart the transmitter case.

NOTICE:

Do not use excessive force when prying apart the transmitter case.



(2) Remove the battery (lithium battery: CR2016).

NOTICE:

- **Do not push the terminals with your finger.**
- **Do not use excessive force when prying up the battery (lithium battery: CR2016) as this may damage the terminals.**
- **Do not touch the battery with wet hands. Water may cause rust.**
- **Do not touch or move any components inside the transmitter as this may interfere with its proper operation.**

INSTALLATION

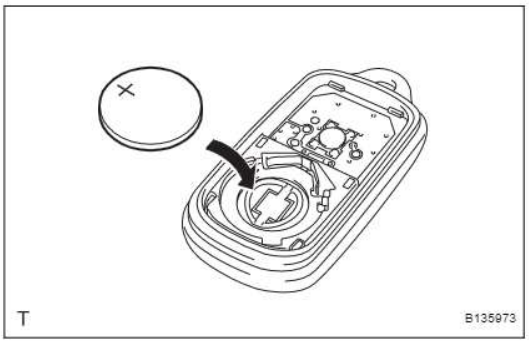
1. INSTALL TRANSMITTER BATTERY

(a) Install the transmitter battery.

(1) Install the battery (lithium battery: CR2016) with the positive (+) side up, as shown in the illustration.

NOTICE:

- **Make sure that the positive (+) side and the negative (-) side of the transmitter battery are correctly matched up with the transmitter terminals.**
- **Do not bend the transmitter battery electrode during insertion.**
- **Keep the transmitter cover interior free of dust and oil.**



(2) Install the transmitter case securely.



DOOR CONTROL TRANSMITTER MODULE

REGISTRATION

HINT:

- Recognition code registration is necessary when the door control transmitter or the door control receiver is replaced with a new one.
- Add Mode is used to register new recognition codes while retaining the previously registered codes. This mode is used when new transmitters are 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 the 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 with a new one.
- Confirmation Mode is used to confirm how many recognition codes have already been registered before any additional recognition codes are registered.
- Prohibition Mode is used to erase all the registered codes and disable the wireless door lock function. This mode is used when the transmitters are lost.
- The registration procedure described on the following pages must be performed in order.

1. REGISTER RECOGNITION CODE USING INTELLIGENT TESTER

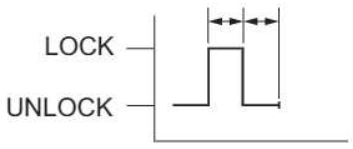
(a) Turn the ignition switch to the ON position.
(b) Select Add or Rewrite Mode according to the intelligent tester display.
(c) The number of registered codes is indicated.
(d) Registration of the door control transmitter.
  (1) Within 30 seconds of Add Mode or Rewrite Mode being selected, press LOCK and UNLOCK switches on the transmitter switch simultaneously.
  (2) Within 3 seconds of moving your finger away from the switches, press either switch of the transmitter for more than 1.0 seconds.

(3) The main body ECU automatically performs the power door LOCK-UNLOCK operation after the switch on the transmitter is turned off, in order to indicate whether registration has been completed correctly or not.

Response to registration completion:

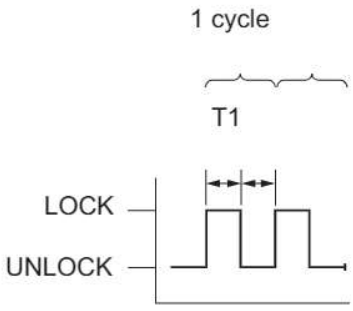
LOCK-UNLOCK Occurs Once

Registration of recognition code has been completed.



LOCK-UNLOCK Occurs Twice

Registration of recognition code has failed.



T1: Approximately 1 second

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HINT:
If the LOCK-UNLOCK operation is performed twice, registration of the recognition code has failed. Perform registration procedures from the beginning once again.

(4) If registration is continued, the next recognition code must be registered in the transmitter within 30 seconds.
HINT:
Up to four recognition codes can be registered.

(e) Ending registration mode.
(1) Registration mode will end when any of the following occurs:
- The intelligent tester is used to order completion.
- The intelligent tester is disconnected.

(f) Registration of the recognition codes (Add Mode and Rewrite Mode) is completed.

2. REGISTER RECOGNITION CODE MANUAL OPERATION

(a) Check that the following conditions are met.
- No key is in the ignition key cylinder.
- Only driver side door is open.

(b) Insert the key into the ignition key cylinder, and remove it twice within 5 seconds.

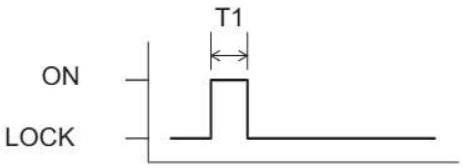
(c) Perform the following operations within 40 seconds.
(1) Close and open the driver side door twice.
(2) Insert the key into the ignition key cylinder, then remove it.

(d) Perform the following operations within 40 seconds.
(1) Close and open the driver side door twice.
(2) Insert the key into the ignition key cylinder and close all doors.

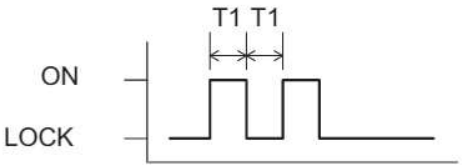
(e) Perform the following operations within 40 seconds.
(1) Turn the ignition switch from LOCK to ON and back to LOCK 1 to 5 times at approximately 1 second intervals to select a mode (see the table below).

Number of ON-LOCK operations of ignition switch:

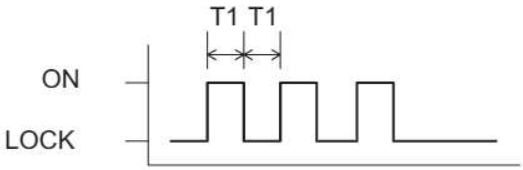
Add Mode ON-LOCK operation: Once



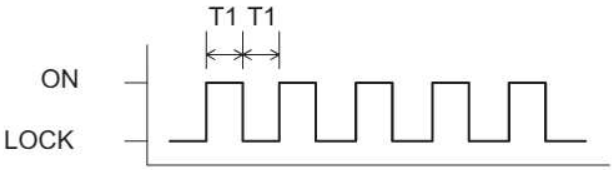
Rewrite Mode ON-LOCK operation: Twice



Confirmation Mode ON-LOCK operation: 3 times



Prohibition Mode ON-LOCK operation: 5 times



T1: Approximately 1 second

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HINT:
If the number of ignition switch ON-LOCK operations is 0, 4, 6 or more, there will be no response (power DOOR LOCK and UNLOCK operation) to show which mode has been selected.

(2) Remove the key from the ignition key cylinder.

(f) The main body ECU automatically performs power door LOCK-UNLOCK operations to indicate which mode has been selected.

Response to mode selection (Power door lock operation):

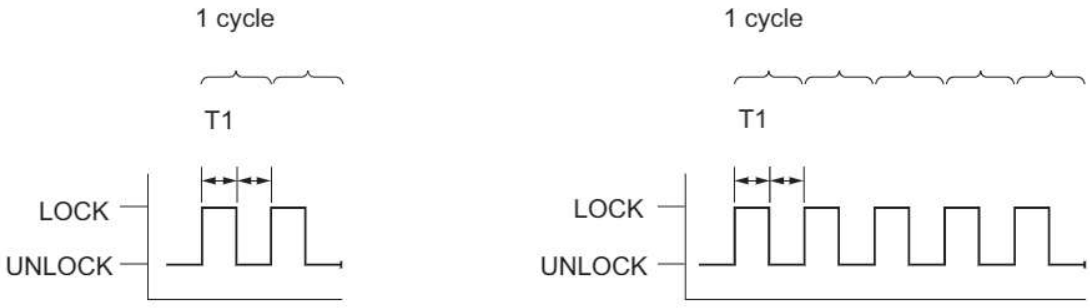
Add Mode LOCK-UNLOCK operation: Once

Confirmation Mode LOCK-UNLOCK operation: The number of registered codes (1 to 5 times)



Rewrite Mode LOCK-UNLOCK operation: Twice

Prohibition Mode LOCK-UNLOCK operation: 5 times



T1: Approximately 1 second T2: Approximately 2 seconds

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HINT:

- In Confirmation Mode, LOCK-UNLOCK operation will occur once for each recognition code that has been registered. For example, if 2 recognition codes have been registered, the LOCK-UNLOCK operation will occur twice.
- In Confirmation Mode, if no recognition codes have been registered, LOCK-UNLOCK operation will occur 11 times.

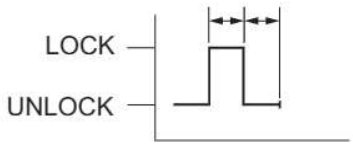
- If Confirmation Mode or Prohibition Mode is selected, the operation ends after the response to the selected mode is completed.

(g) Register a new recognition code (Add Mode or Rewrite Mode) in accordance with the following procedure.
  (1) Within 40 seconds of Add Mode or Rewrite Mode being selected, press the LOCK and UNLOCK switches on the transmitter switch simultaneously for 1.0 to 1.5 seconds. Within 3 seconds of moving your finger away from the switches, press either switch of the transmitter for more than 1.0 second.
  (2) Within 3 seconds of the transmitter switch being released, the LOCK-UNLOCK operation will be automatically performed once if the registration of the recognition code is correctly completed.

Response to registration completion:

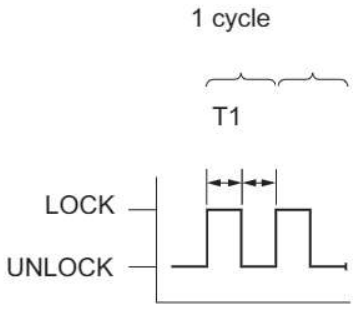
LOCK-UNLOCK Occurs Once

Registration of recognition code has been completed.



LOCK-UNLOCK Occurs Twice

Registration of recognition code has failed.



T1: Approximately 1 second

Y

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HINT:
If the LOCK-UNLOCK operation is performed twice, the registration of the recognition code has failed, so perform the registration procedure from the beginning once again.

(h) If multiple transmitters need to be registered, repeat the registration of a new recognition code procedure within 40 seconds of the previous registration.

(i) If any of the following conditions is met, the Registration Mode will end:
  (1) The key is inserted into the ignition key cylinder.
  (2) Any doors are opened.
  (3) 40 seconds or more elapse after code registration.

(j) Registration of the recognition codes (Add Mode and Rewrite Mode) is completed.

INSPECTION

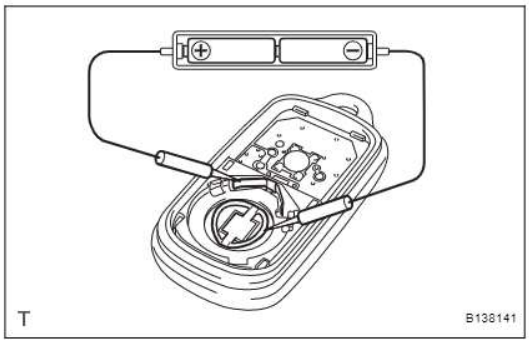
1. INSPECT DOOR CONTROL TRANSMITTER MODULE

(a) Check the operation of the transmitter.

(1) Remove the battery (lithium battery) from the transmitter.

(2) Install a new or normal battery (lithium battery).

(3) If a new or normal battery is not available, connect 2 new 1.5 V batteries in series. Connect the positive (+) battery electrode to the battery receptacle side terminal, and the negative (-) battery electrode to the bottom terminal, and apply a voltage of 3 V to the transmitter.



(4) In a location that is approximately 1 m (3.28ft.) away from the driver side outside door handle, point the key plate of the transmitter at the vehicle and check the operation of the transmitter by pressing the transmitter switches on the transmitter body.

Standard:

The door lock/unlock can be operated via remote control.

HINT:

- The maximum operational distance differs depending on the way the transmitter is held and the location.
- Since the transmitter uses faint electric waves, the operational distance might be shortened if noise or a strong electric wave occurs in the area where the frequency is used.

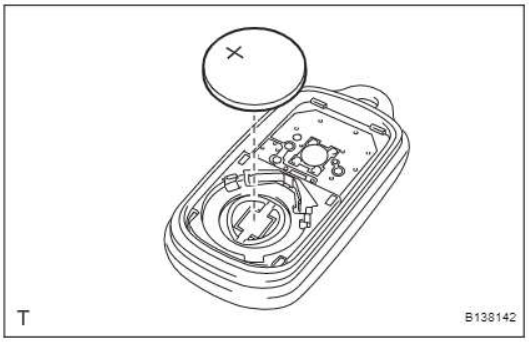
(5) Install the battery (lithium battery).

(b) Check the battery capacity.

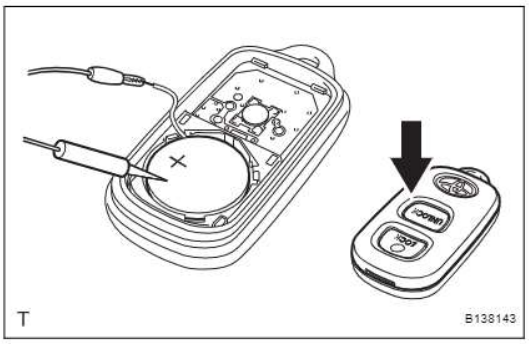
HINT:

- The capacity of the battery can be checked only when the battery is installed in the transmitter. For a lithium battery used in the transmitter, a voltage of more than 2.5 V is shown on the tester until the energy is completely consumed without the battery installed in the transmitter. Therefore, it is necessary to measure the voltage with the battery installed in the transmitter (a resistance of 1.2 kΩ is applied to the battery) to check the amount of energy left in the battery.
- If the transmitter is faulty, the amount of energy left in the battery might not be checked correctly.

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(1) Remove the battery (lithium battery) from the transmitter.



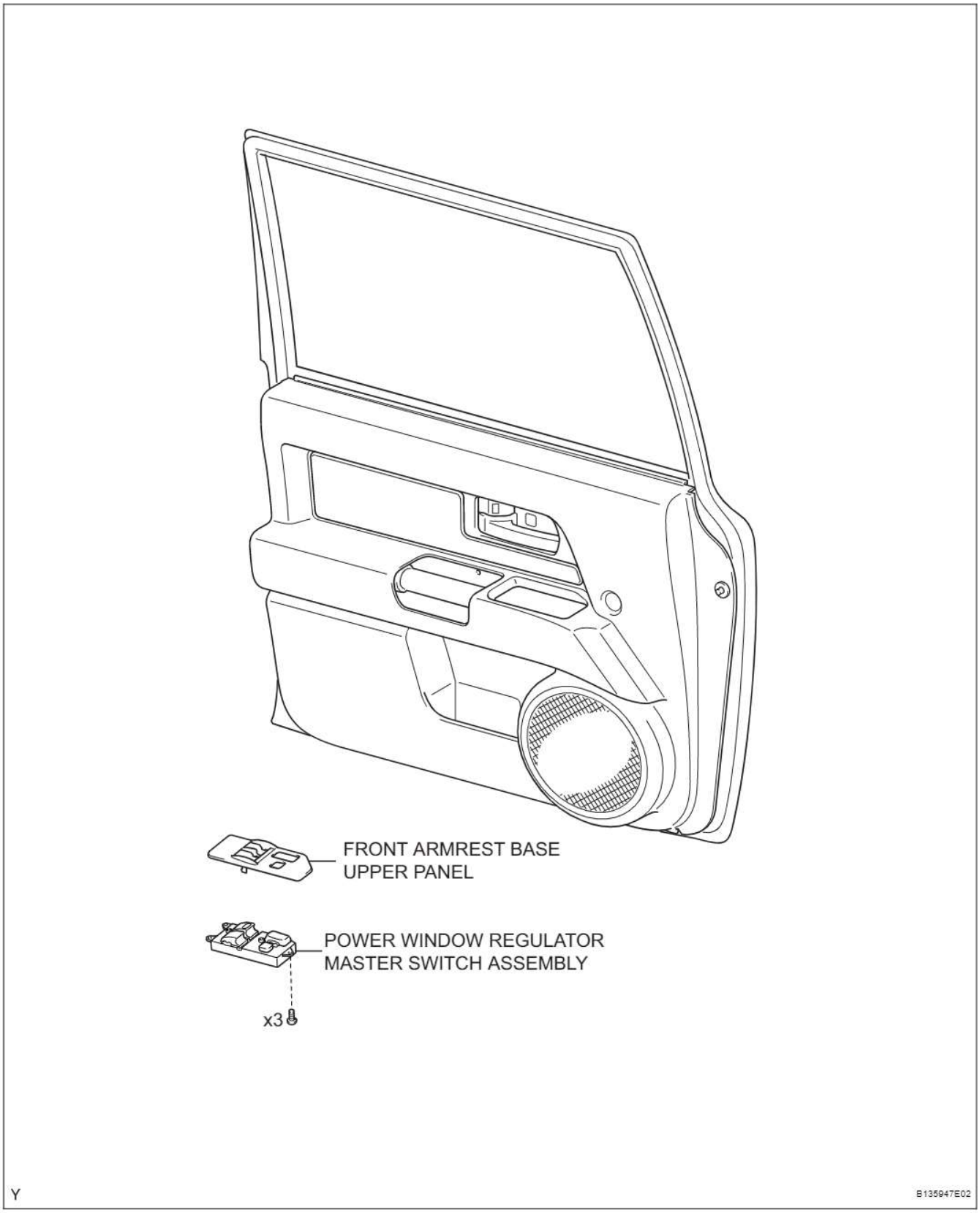
(2) Connect the lead to the negative (-) terminal of the transmitter and install the battery.
(3) Connect the positive (+) tester probe to the positive (+) side of the battery (lithium battery) and the negative (-) tester probe to the lead respectively.
(4) Press one of the transmitter switches on the transmitter for approximately 1 second.
(5) Press either transmitter switch again and check the voltage.
Standard Voltage:
2.2 V or higher
HINT:
- If the temperature of the battery is low, the inspection cannot be performed correctly. If the result of the test is less than 2.2 V, conduct the test again after leaving the battery in a place with a temperature of 18°C (64°F) for more than 30 minutes.
- The automatic power-off function causes the battery voltage to be 2.5 V or more (a voltage with no resistance applied to the battery) when 0.8 seconds have passed after the switch is pressed. Therefore, read the voltage immediately after the switch is pressed.
- 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) Remove the lead.
(7) Set the battery (lithium battery) in the transmitter.

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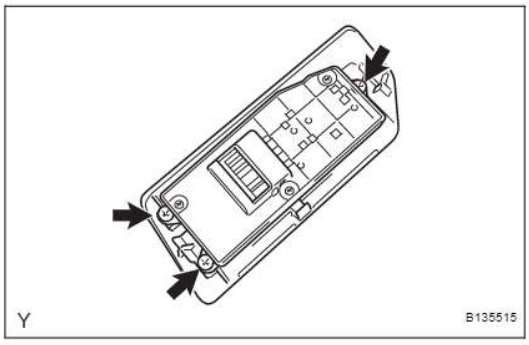
DOOR CONTROL SWITCH (for Driver Side)

COMPONENTS



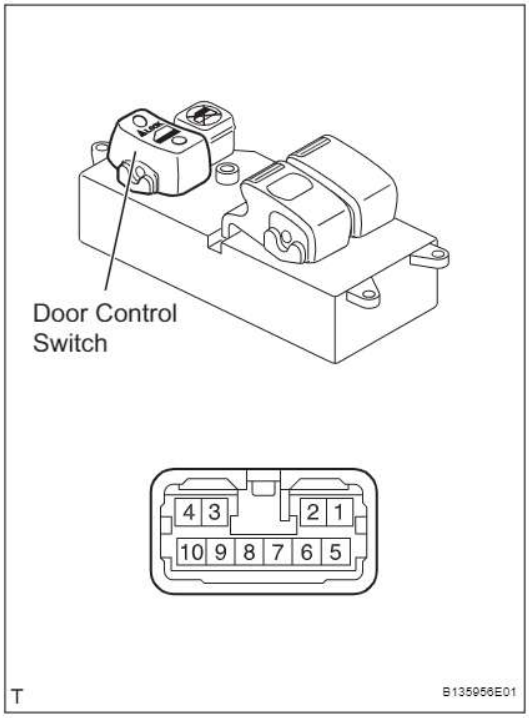
REMOVAL

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
2. **REMOVE FRONT ARMREST BASE UPPER PANEL (See page WS-25)**
3. **REMOVE POWER WINDOW REGULATOR MASTER SWITCH ASSEMBLY**
   (a) Remove the 3 screws and the power window regulator master switch.



INSPECTION

1. **INSPECT POWER WINDOW REGULATOR MASTER SWITCH ASSEMBLY**
   (a) Check the resistance of the door control switch.
   (1) Using an ohmmeter, measure the resistance and check the results in accordance with the value(s) in the table below.
   Standard Resistance

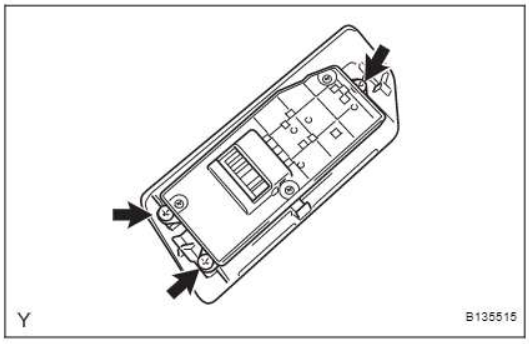


Tester Connection	Switch Condition	Specified Condition
1 - 2	Locked	Below 1 Ω
1 - 2	OFF	10 kΩ or higher
1 - 5	OFF	10 kΩ or higher
1 - 5	Unlocked	Below 1 Ω

If the result is not as specified, replace the power window regulator master switch.

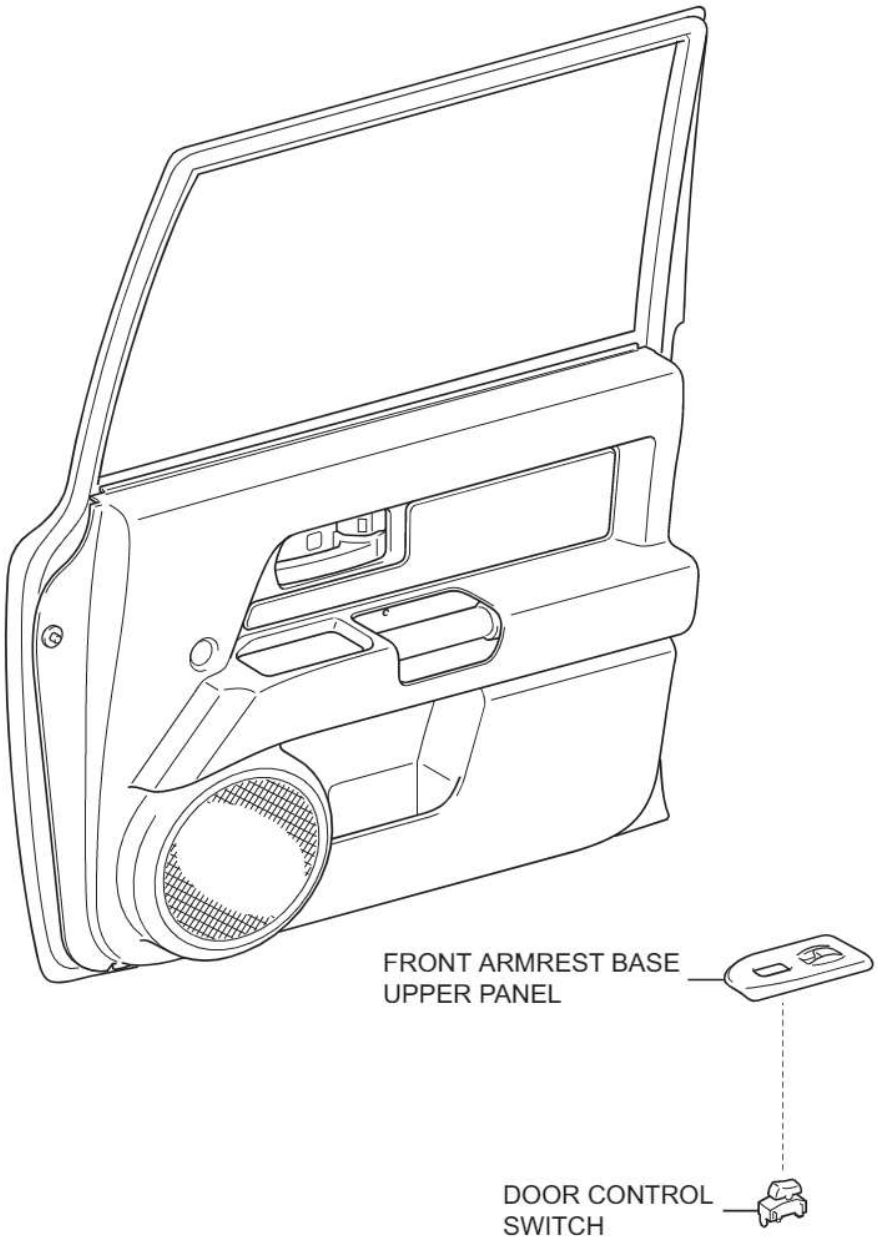
INSTALLATION

1. **INSTALL POWER WINDOW REGULATOR MASTER SWITCH ASSEMBLY**
   (a) Install the power window regulator master switch with the 3 screws.
2. **INSTALL FRONT ARMREST BASE UPPER PANEL (See page WS-27)**
3. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
   Torque: 3.9 N*m (40 kgf*cm, 35 in.*lbf)



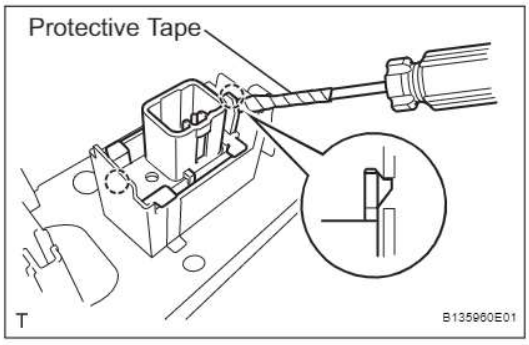
DOOR CONTROL SWITCH (for Front Passenger Side)

COMPONENTS



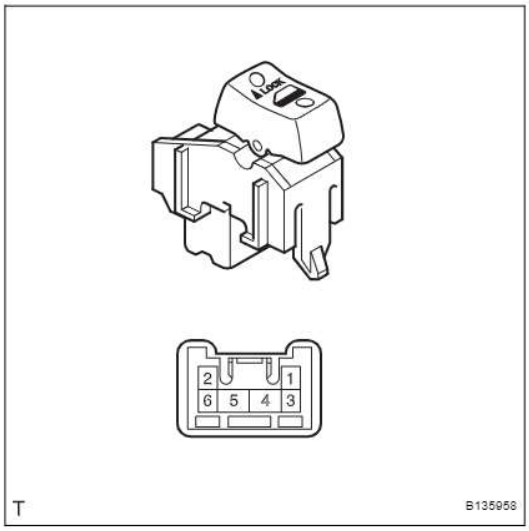
REMOVAL

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
2. **REMOVE FRONT ARMREST BASE UPPER PANEL (See page ED-9)**
3. **REMOVE DOOR CONTROL SWITCH**
   (a) Using a screwdriver with its tip wrapped in protective tape, disengage the 2 claws and remove the door control switch.



INSPECTION

1. **INSPECT DOOR CONTROL SWITCH**
   (a) Check the resistance.
      (1) Using an ohmmeter, measure the resistance and check the results in accordance with the value(s) in the table below.
      Standard Resistance

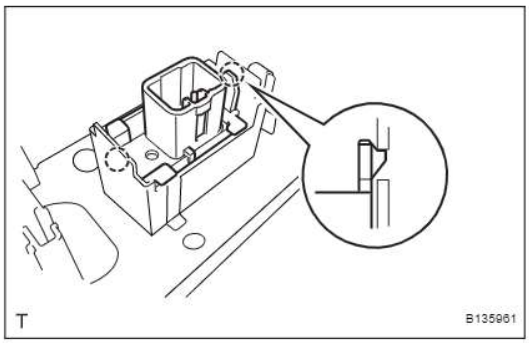


Tester Connection	Condition	Specified Condition
3 - 6	Locked	Below 1 Ω
3 - 6	Unlocked	10 kΩ or higher
3 - 5	Locked	10 kΩ or higher
3 - 5	Unlocked	Below 1 Ω

If the result is not as specified, replace the door control switch.

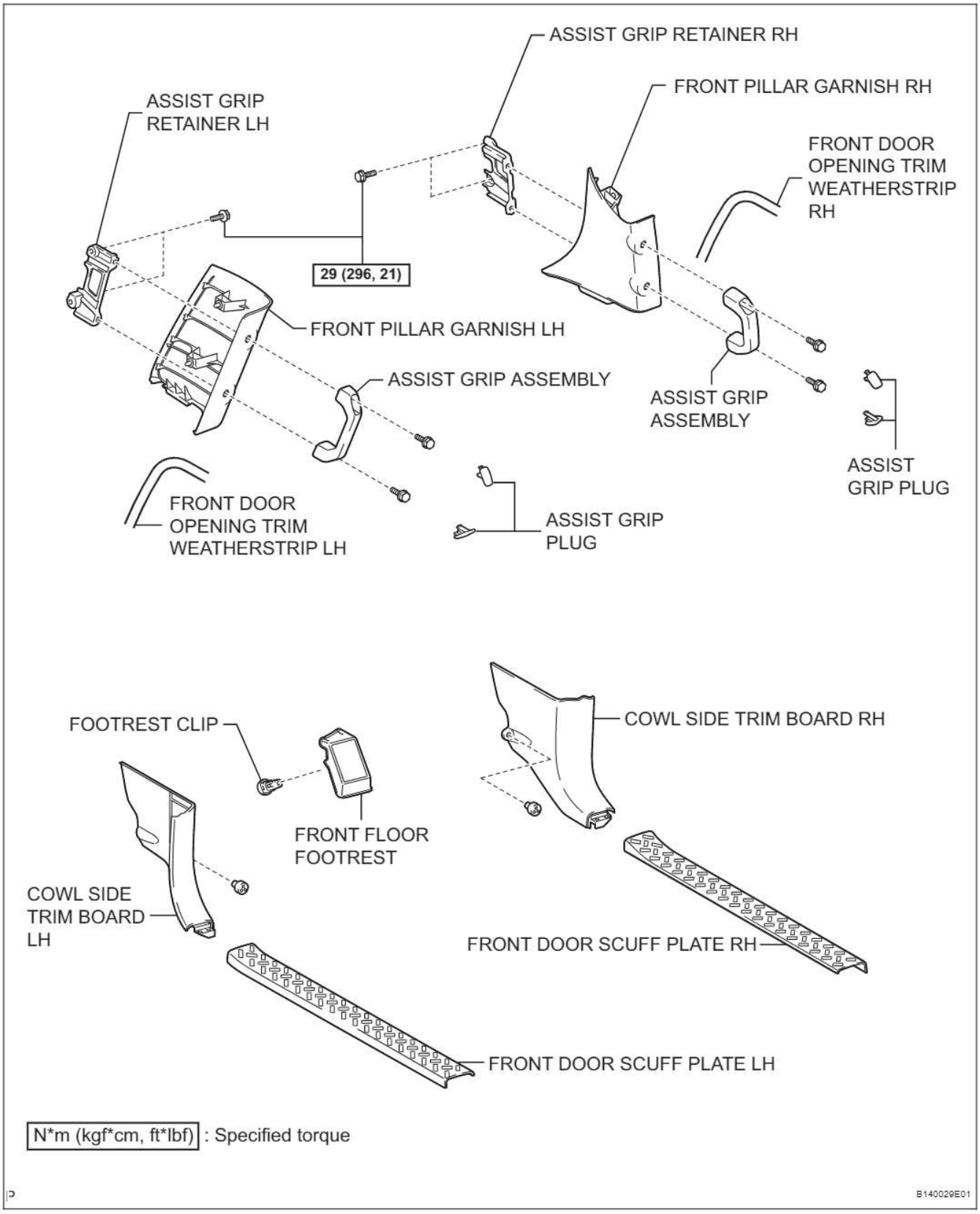
INSTALLATION

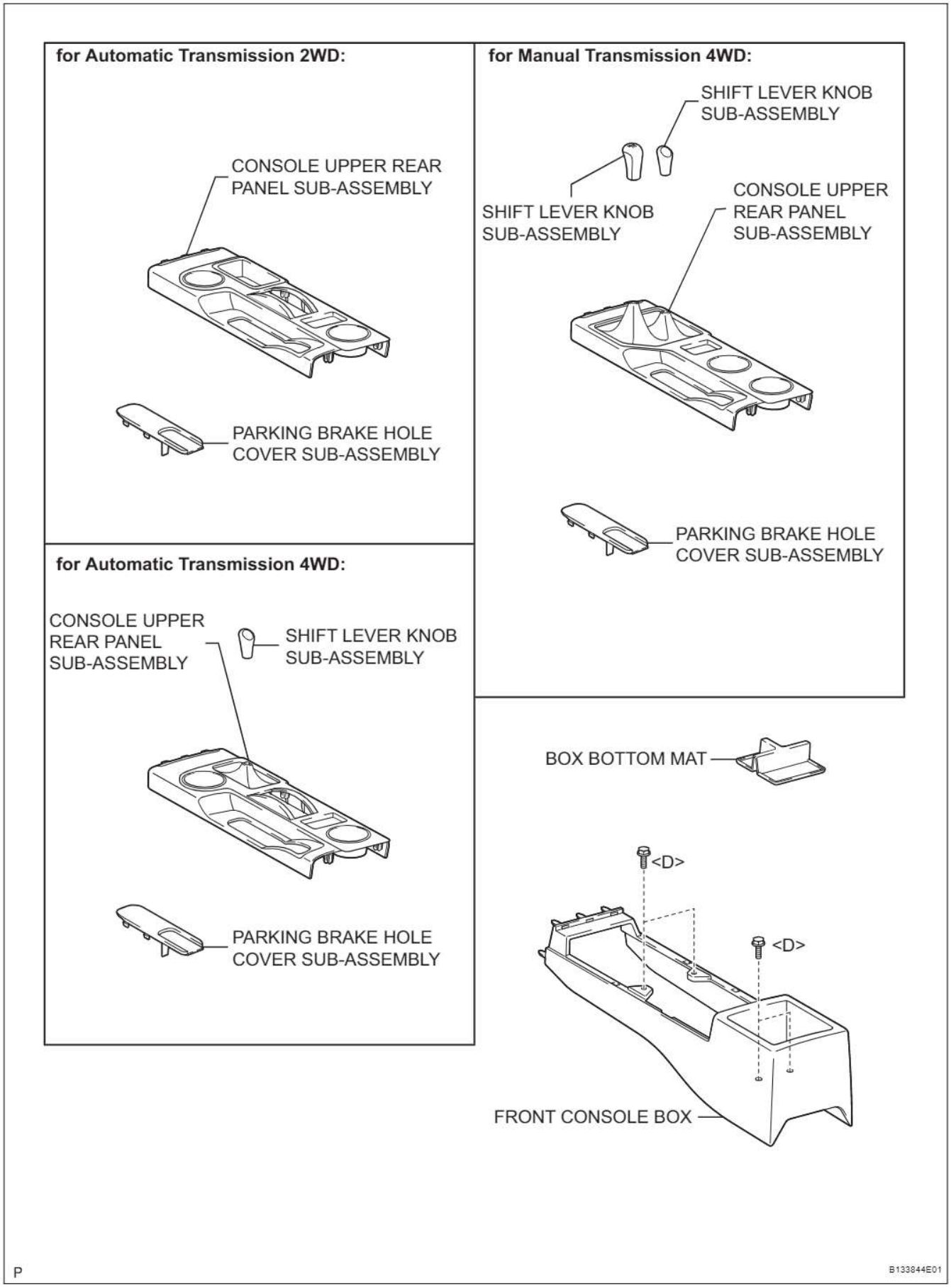
1. **INSTALL DOOR CONTROL SWITCH**
   (a) Engage the 2 claws and install the door control switch.
2. **INSTALL FRONT ARMREST BASE UPPER PANEL (See page ED-25)**
3. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
   Torque: 3.9 N*m (40 kgf*cm, 35 in.*lbf)

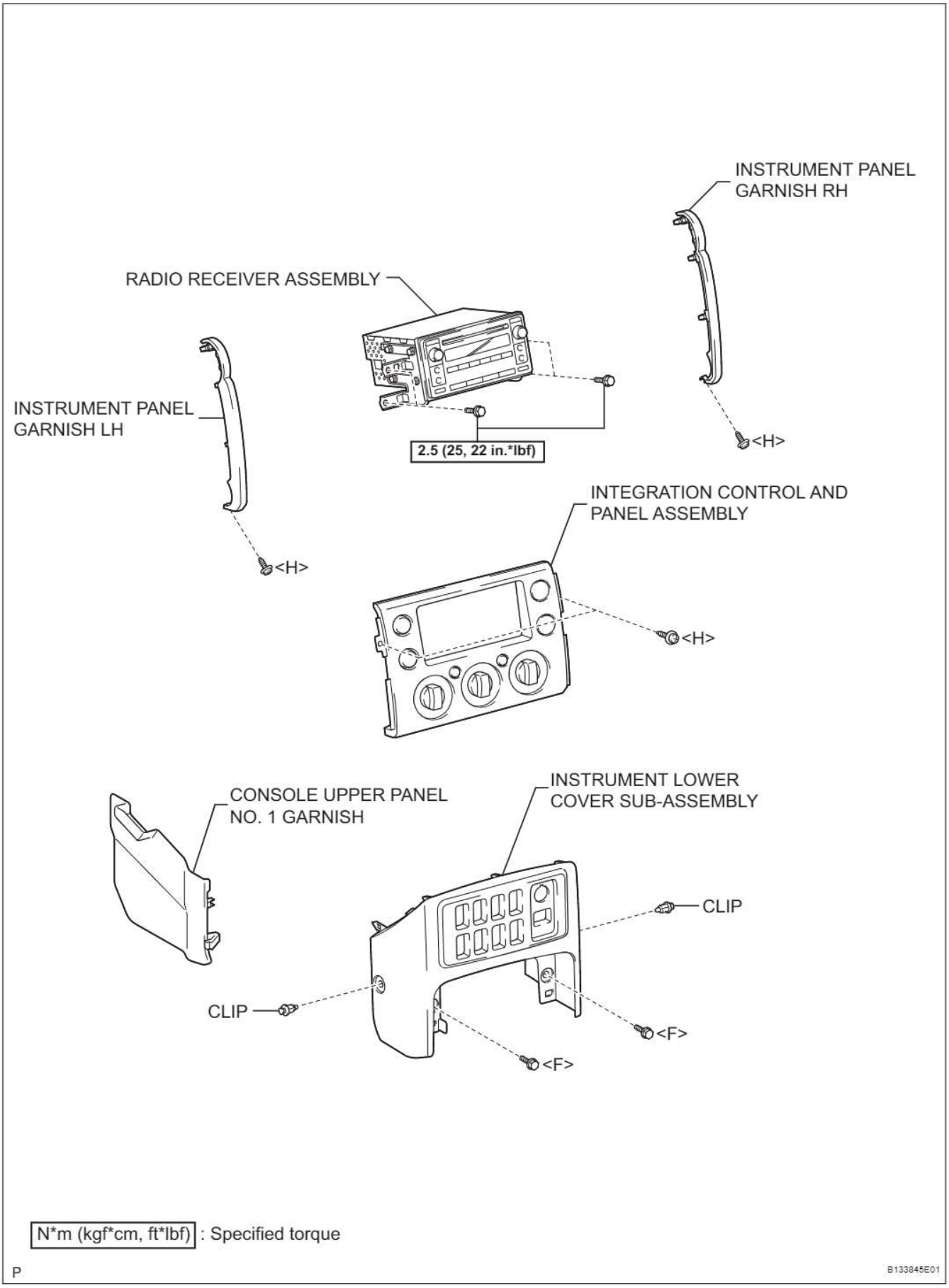


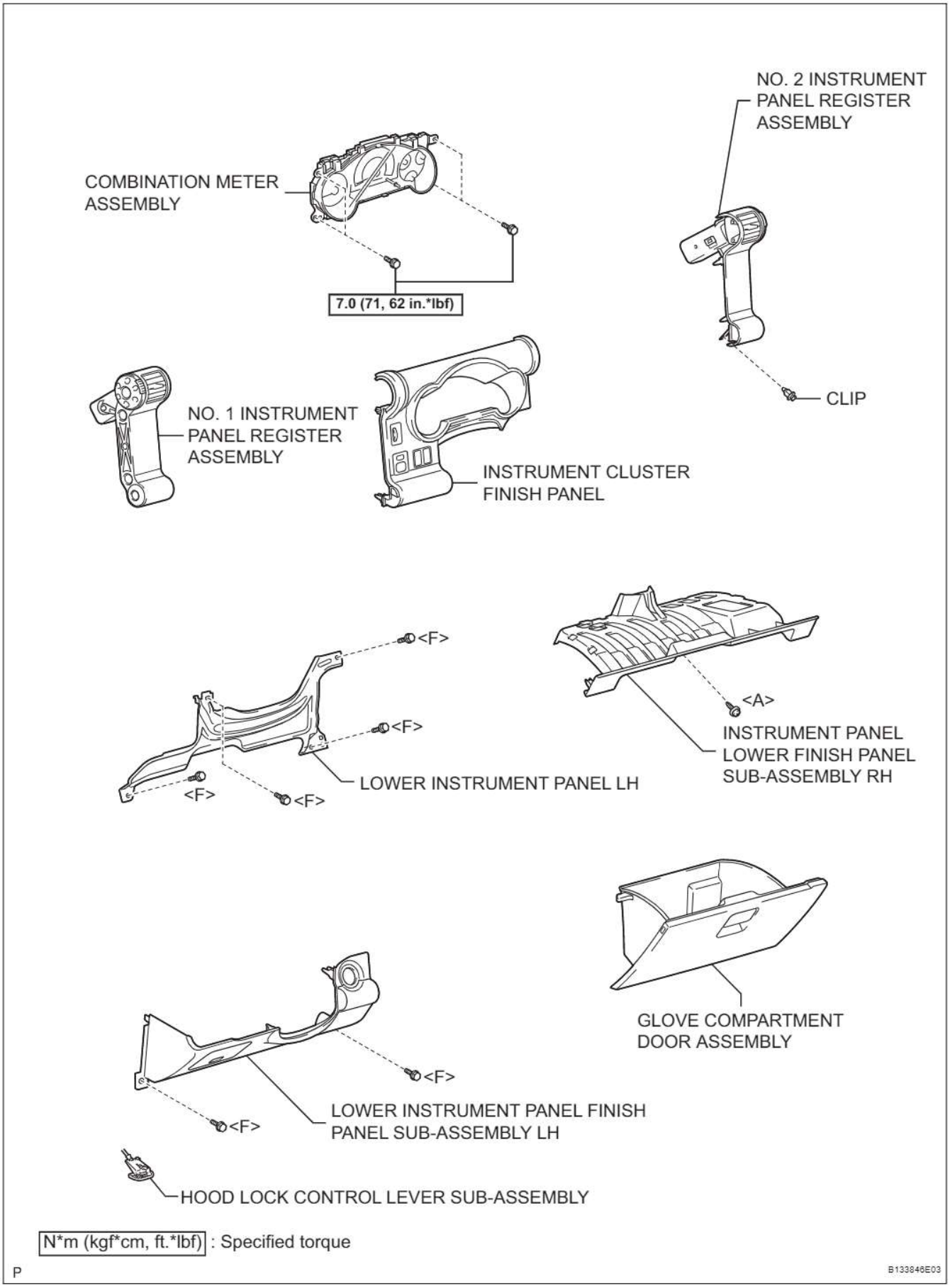
UNLOCK WARNING SWITCH

COMPONENTS

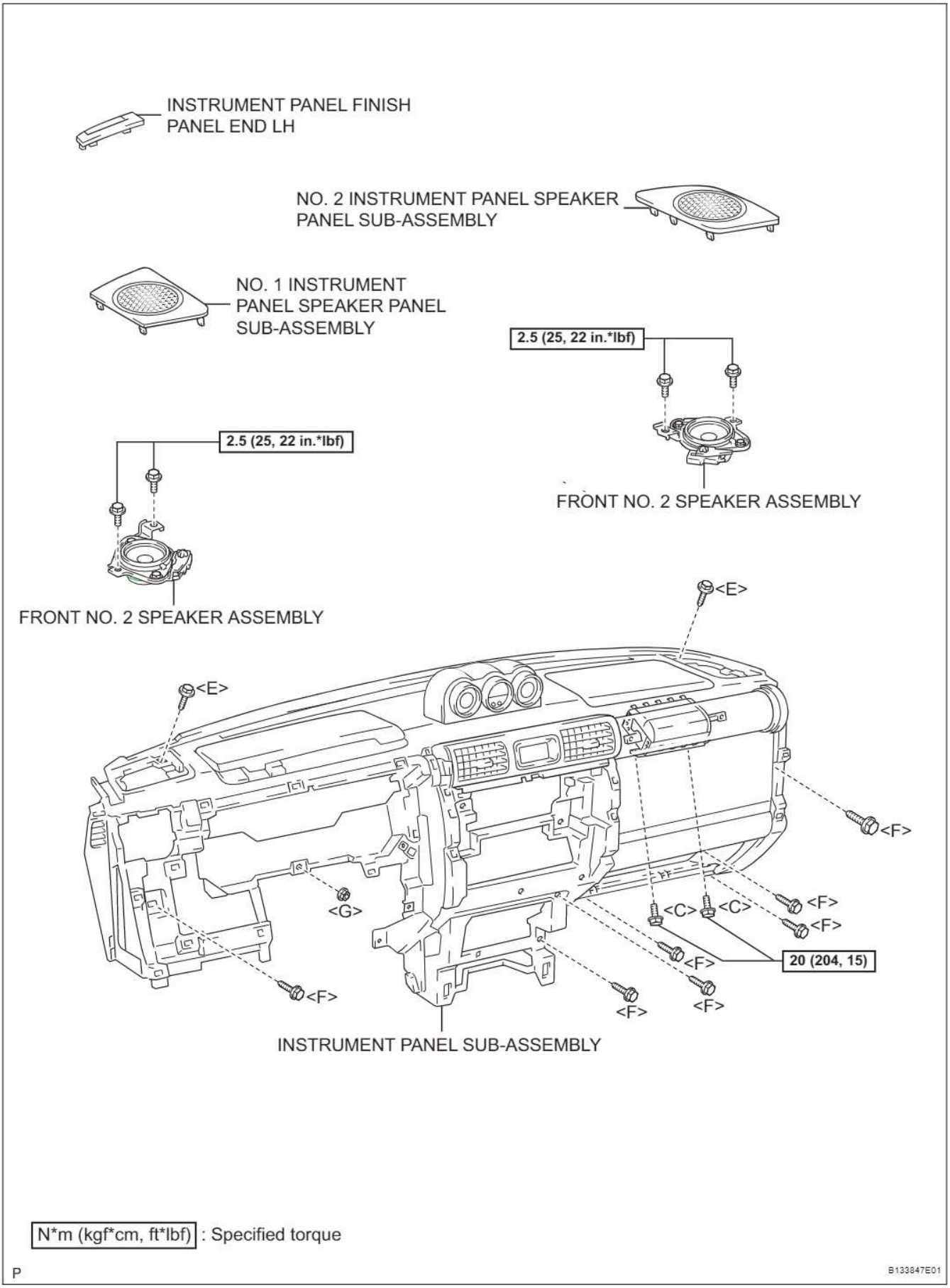


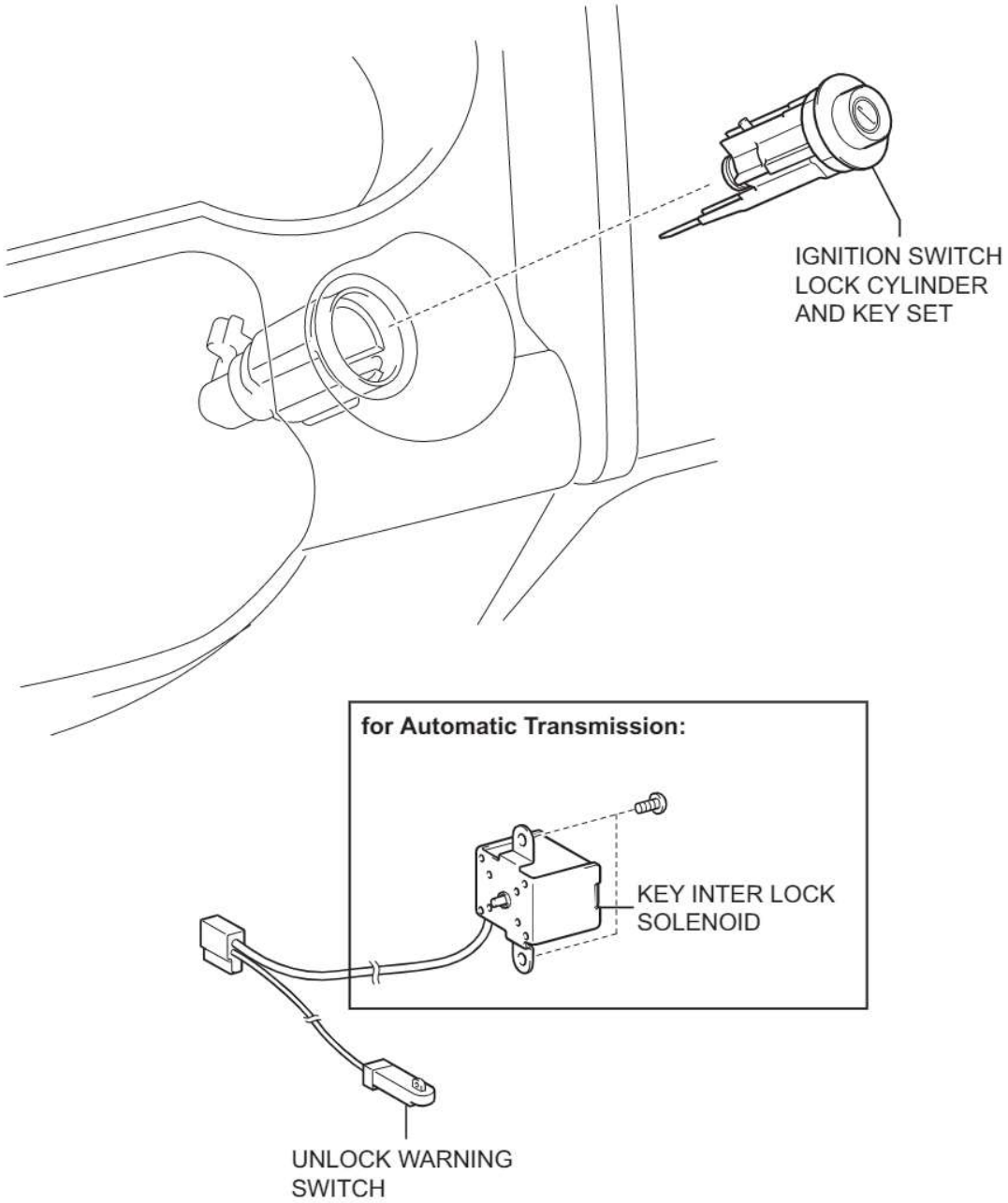

for Automatic Transmission 2WD:
CONSOLE UPPER REAR PANEL SUB-ASSEMBLY
PARKING BRAKE HOLE COVER SUB-ASSEMBLY
for Manual Transmission 4WD:
SHIFT LEVER KNOB SUB-ASSEMBLY
SHIFT LEVER KNOB SUB-ASSEMBLY
CONSOLE UPPER REAR PANEL SUB-ASSEMBLY
PARKING BRAKE HOLE COVER SUB-ASSEMBLY
for Automatic Transmission 4WD:
CONSOLE UPPER REAR PANEL SUB-ASSEMBLY
SHIFT LEVER KNOB SUB-ASSEMBLY
PARKING BRAKE HOLE COVER SUB-ASSEMBLY
BOX BOTTOM MAT
<D>
<D>
FRONT CONSOLE BOX
P
B133844E01


INSTRUMENT PANEL GARNISH RH
RADIO RECEIVER ASSEMBLY
INSTRUMENT PANEL GARNISH LH
2.5 (25, 22 in.*lbf)
<H>
<H>
INTEGRATION CONTROL AND PANEL ASSEMBLY
<H>
CONSOLE UPPER PANEL NO. 1 GARNISH
INSTRUMENT LOWER COVER SUB-ASSEMBLY
CLIP
CLIP
<F>
<F>
N*m (kgf*cm, ft*lbf) : Specified torque
P
B133845E01


NO. 2 INSTRUMENT PANEL REGISTER ASSEMBLY
COMBINATION METER ASSEMBLY
7.0 (71, 62 in.*lbf)
CLIP
NO. 1 INSTRUMENT PANEL REGISTER ASSEMBLY
INSTRUMENT CLUSTER FINISH PANEL
<F>
<A>
INSTRUMENT PANEL LOWER FINISH PANEL SUB-ASSEMBLY RH
LOWER INSTRUMENT PANEL LH
GLOVE COMPARTMENT DOOR ASSEMBLY
LOWER INSTRUMENT PANEL FINISH PANEL SUB-ASSEMBLY LH
HOOD LOCK CONTROL LEVER SUB-ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
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B133846E03

DL

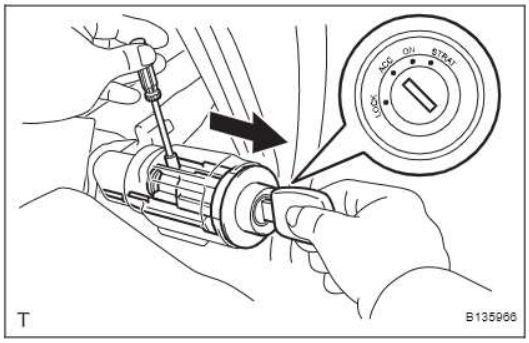

INSTRUMENT PANEL FINISH PANEL END LH
NO. 2 INSTRUMENT PANEL SPEAKER PANEL SUB-ASSEMBLY
NO. 1 INSTRUMENT PANEL SPEAKER PANEL SUB-ASSEMBLY
2.5 (25, 22 in.*lbf)
FRONT NO. 2 SPEAKER ASSEMBLY
2.5 (25, 22 in.*lbf)
FRONT NO. 2 SPEAKER ASSEMBLY
<E>
<E>
<F>
<G>
<C>
<C>
<F>
<F>
<F>
<F>
<F>
<F>
20 (204, 15)
INSTRUMENT PANEL SUB-ASSEMBLY
N*m (kgf*cm, ft*lbf) : Specified torque
P
B133847E01

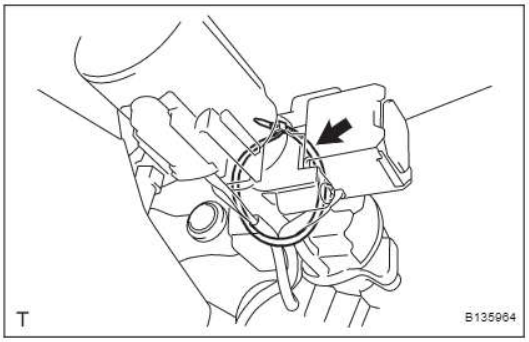

IGNITION SWITCH
LOCK CYLINDER
AND KEY SET
for Automatic Transmission:
KEY INTER LOCK
SOLENOID
UNLOCK WARNING
SWITCH
T
B135970E01

REMOVAL

1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL
2. REMOVE FRONT DOOR SCUFF PLATE RH (See page IR-15)
3. REMOVE FRONT DOOR SCUFF PLATE LH (See page IR-15)
4. REMOVE FRONT FLOOR FOOTREST (See page IR-2)
5. REMOVE FOOTREST CLIP (See page IR-2)
6. REMOVE COWL SIDE TRIM BOARD RH (See page IR-15)
7. REMOVE COWL SIDE TRIM BOARD LH (See page IR-15)
8. REMOVE FRONT DOOR OPENING TRIM WEATHERSTRIP LH (See page IP-10)
9. REMOVE FRONT DOOR OPENING TRIM WEATHERSTRIP RH (See page IP-10)
10. REMOVE ASSIST GRIP PLUG (See page IR-17)
11. REMOVE ASSIST GRIP ASSEMBLY (See page IR-17)
12. REMOVE FRONT PILLAR GARNISH RH (See page IR-18)
13. REMOVE FRONT PILLAR GARNISH LH (See page IR-18)
14. REMOVE INSTRUMENT PANEL GARNISH LH (See page IP-10)
15. REMOVE INSTRUMENT PANEL GARNISH RH (See page IP-10)
16. REMOVE INTEGRATION CONTROL AND PANEL ASSEMBLY (See page IP-11)
17. REMOVE RADIO RECEIVER ASSEMBLY (See page AV-55)
18. REMOVE PARKING BRAKE HOLE COVER SUB-ASSEMBLY (See page IP-11)
19. REMOVE SHIFT LEVER KNOB SUB-ASSEMBLY (for Manual Transmission) (See page IP-11)
20. REMOVE SHIFT LEVER KNOB SUB-ASSEMBLY (for 4WD) (See page IP-11)
21. REMOVE CONSOLE UPPER REAR PANEL SUB-ASSEMBLY (See page IP-12)
22. REMOVE BOX BOTTOM MAT (See page IP-12)
23. REMOVE FRONT CONSOLE BOX (See page IP-12)
24. REMOVE CONSOLE UPPER PANEL NO. 1 GARNISH (See page IP-12)

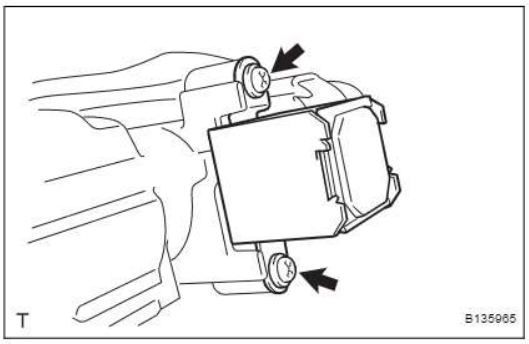
25. REMOVE INSTRUMENT LOWER COVER SUB-ASSEMBLY (See page IP-13)
26. REMOVE NO. 1 INSTRUMENT PANEL REGISTER ASSEMBLY (See page IP-13)
27. REMOVE HOOD LOCK CONTROL LEVER SUB-ASSEMBLY (See page IP-13)
28. REMOVE LOWER INSTRUMENT PANEL FINISH PANEL SUB-ASSEMBLY LH (See page IP-14)
29. REMOVE LOWER INSTRUMENT PANEL LH (See page IP-14)
30. REMOVE INSTRUMENT CLUSTER LOWER FINISH PANEL (See page IP-14)
31. REMOVE COMBINATION METER ASSEMBLY (See page IP-14)
32. REMOVE GLOVE COMPARTMENT DOOR ASSEMBLY (See page IP-15)
33. REMOVE INSTRUMENT PANEL LOWER FINISH PANEL SUB-ASSEMBLY RH (See page IP-15)
34. REMOVE NO. 2 INSTRUMENT PANEL REGISTER ASSEMBLY (See page IP-16)
35. REMOVE NO. 2 INSTRUMENT PANEL SPEAKER PANEL SUB-ASSEMBLY (See page IP-16)
36. REMOVE NO. 1 INSTRUMENT PANEL SPEAKER PANEL SUB-ASSEMBLY (See page IP-16)
37. REMOVE FRONT NO. 2 SPEAKER ASSEMBLY (See page AV-62)
38. REMOVE ASSIST GRIP RETAINER RH (See page IP-16)
39. REMOVE ASSIST GRIP RETAINER LH (See page IP-16)
40. DISCONNECT PASSENGER AIRBAG CONNECTOR (See page IP-16)
41. REMOVE INSTRUMENT PANEL SUB-ASSEMBLY (See page IP-16)
42. REMOVE INSTRUMENT PANEL FINISH PANEL END LH (See page IP-21)
43. REMOVE IGNITION SWITCH LOCK CYLINDER AND KEY SET
    (a) Turn the ignition switch lock cylinder to the ACC position.
    (b) Push down the stop pin with a screwdriver and pull out the ignition switch lock cylinder.



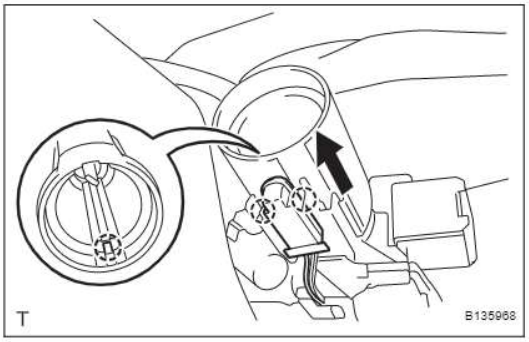


44. REMOVE KEY INTER LOCK SOLENOID (for Automatic Transmission)

(a) Disconnect the clamp from the steering column bracket upper.



(b) Remove the 2 screws and the key inter lock solenoid.

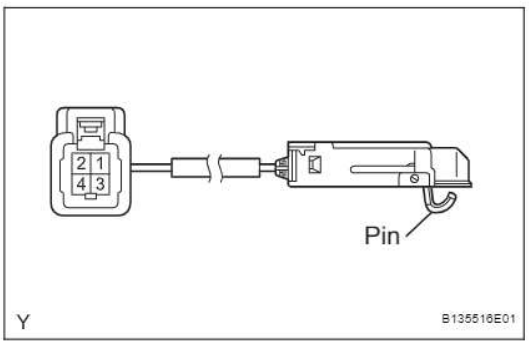


45. REMOVE UNLOCK WARNING SWITCH

(a) Disconnect the connector.

(b) Remove the unlock warning switch toward the rear of the vehicle by pushing up the center part.

DL



INSPECTION

1. INSPECT UNLOCK WARNING SWITCH

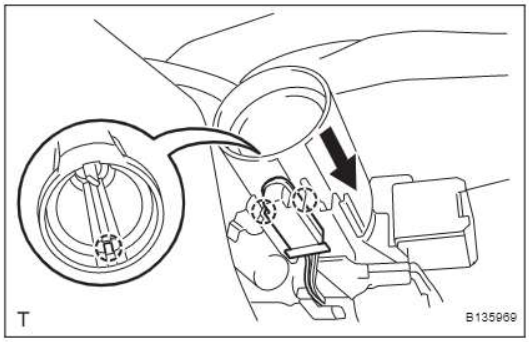
(a) Check the resistance.

(1) Using an ohmmeter, measure the resistance and check the results in accordance with the value(s) in the table below.

Standard Resistance

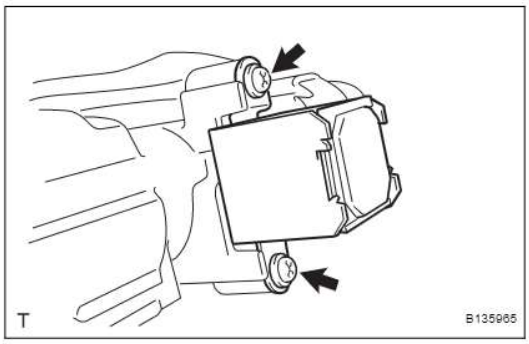
Tester Connection	Condition	Specified Condition
1 - 2	Pin released	10 kΩ or higher
1 - 2	Pin pushed in	Below 1 Ω

If the result is not as specified, replace the unlock warning switch.

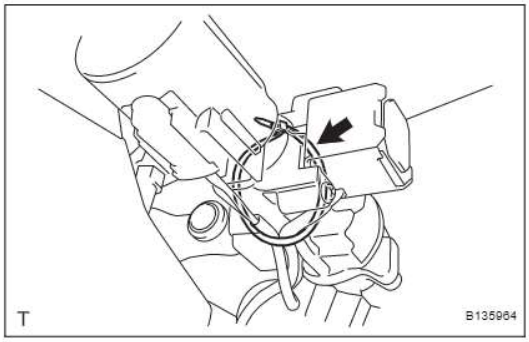


INSTALLATION

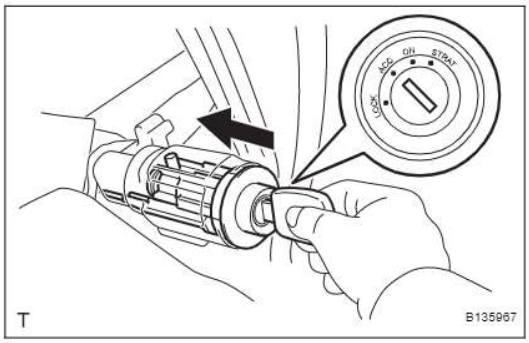
1. **INSTALL UNLOCK WARNING SWITCH**
   (a) Install the unlock warning switch onto the steering column bracket upper.
   (b) Connect the connector.



2. **INSTALL KEY INTER LOCK SOLENOID (for Automatic Transmission)**
   (a) Install the key inter lock solenoid with the 2 screws.



   (b) Install the clamp onto the steering column bracket upper.



3. **INSTALL IGNITION SWITCH LOCK CYLINDER AND KEY SET**
   (a) Make sure that the ignition switch lock cylinder is in the ACC position.
   (b) Install the ignition switch lock cylinder.
4. **INSTALL INSTRUMENT PANEL SUB-ASSEMBLY (See page IP-26)**
5. **CONNECT PASSENGER AIRBAG CONNECTOR (See page IP-26)**
6. **REMOVE INSTRUMENT PANEL FINISH PANEL END LH (See page IP-27)**
7. **INSTALL ASSIST GRIP RETAINER RH (See page IP-27)**
8. **INSTALL ASSIST GRIP RETAINER LH (See page IP-27)**
9. **INSTALL FRONT NO. 2 SPEAKER ASSEMBLY (See page AV-62)**

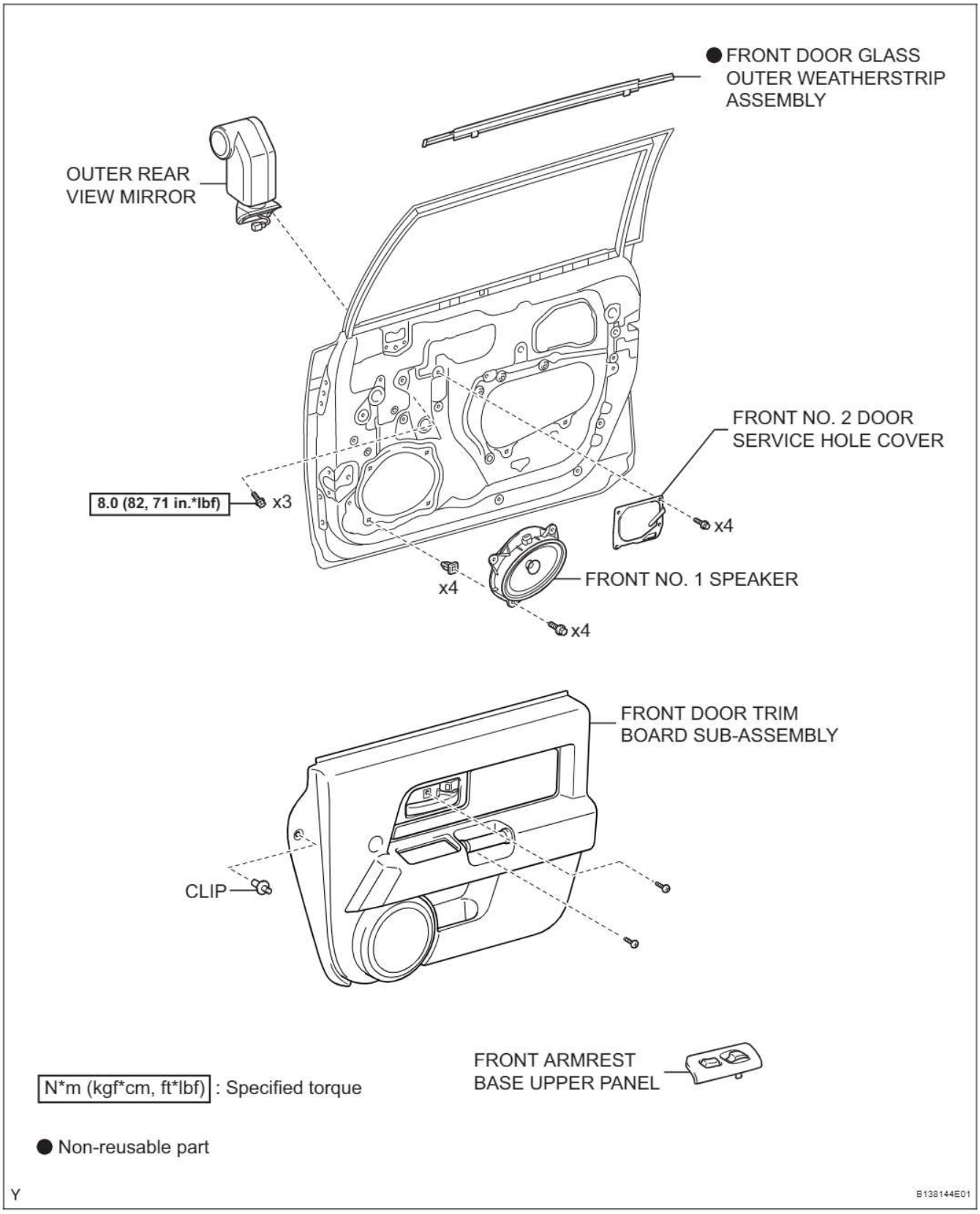
DL

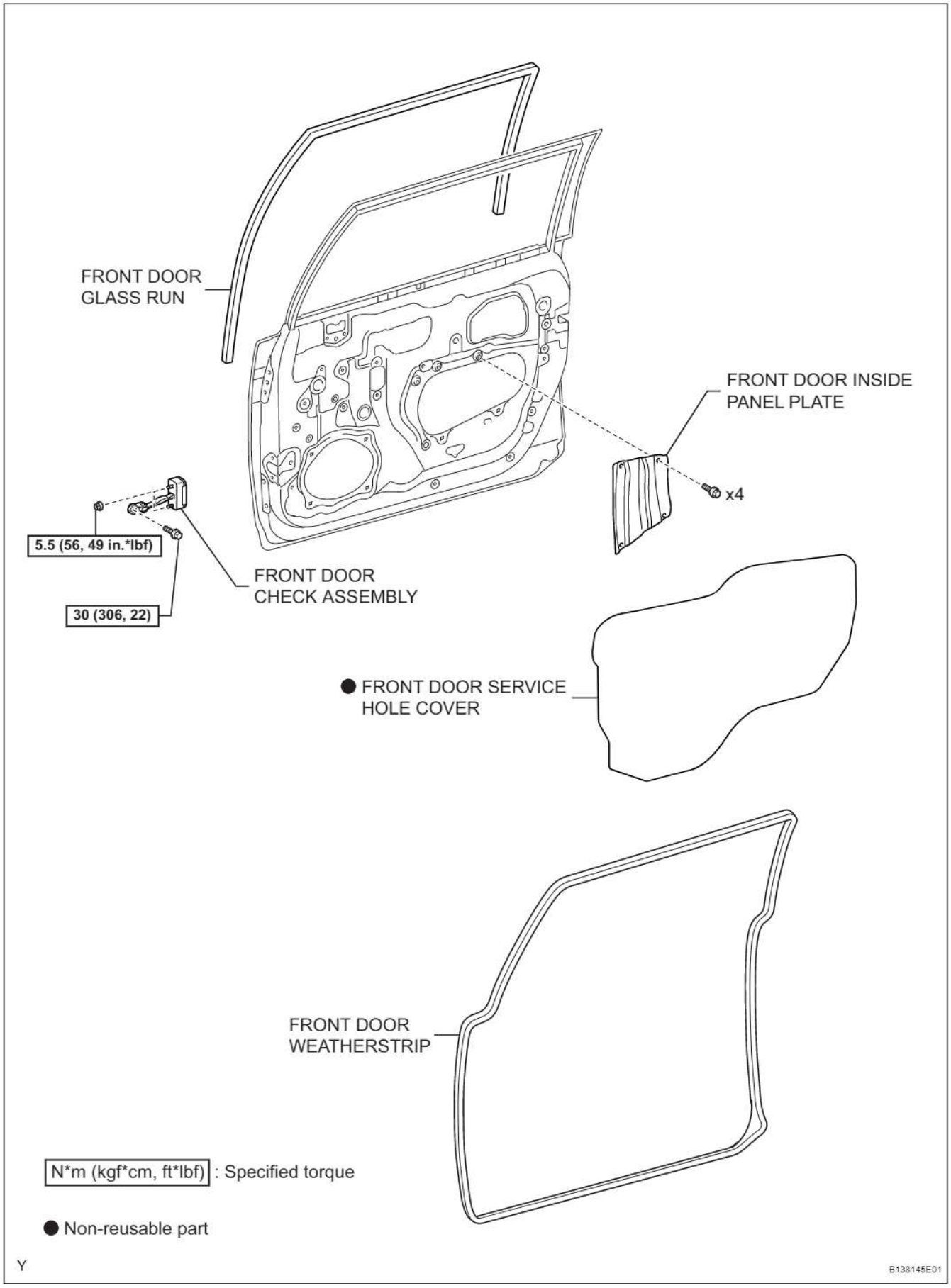
10. INSTALL NO. 2 INSTRUMENT PANEL SPEAKER PANEL SUB-ASSEMBLY (See page IP-27)
11. INSTALL NO. 1 INSTRUMENT PANEL SPEAKER PANEL SUB-ASSEMBLY (See page IP-27)
12. INSTALL NO. 2 INSTRUMENT PANEL REGISTER ASSEMBLY (See page IP-27)
13. INSTALL INSTRUMENT PANEL LOWER FINISH PANEL SUB-ASSEMBLY RH (See page IP-28)
14. INSTALL GLOVE COMPARTMENT DOOR ASSEMBLY (See page IP-28)
15. INSTALL COMBINATION METER ASSEMBLY (See page IP-28)
16. INSTALL INSTRUMENT CLUSTER LOWER FINISH PANEL (See page IP-29)
17. INSTALL LOWER INSTRUMENT PANEL LH (See page IP-29)
18. INSTALL LOWER INSTRUMENT PANEL FINISH PANEL SUB-ASSEMBLY LH (See page IP-29)
19. CONNECT HOOD LOCK CONTROL LEVER SUB-ASSEMBLY (See page IP-30)
20. INSTALL NO. 1 INSTRUMENT PANEL REGISTER ASSEMBLY (See page IP-30)
21. INSTALL INSTRUMENT LOWER COVER SUB-ASSEMBLY (See page IP-30)
22. INSTALL CONSOLE UPPER PANEL NO. 1 GARNISH (See page IP-31)
23. INSTALL FRONT CONSOLE BOX ASSEMBLY (See page IP-31)
24. INSTALL BOX BOTTOM MAT (See page IP-31)
25. INSTALL CONSOLE UPPER REAR PANEL SUB-ASSEMBLY (See page IP-31)
26. INSTALL SHIFT LEVER KNOB SUB-ASSEMBLY (for 4WD) (See page IP-32)
27. INSTALL SHIFT LEVER KNOB SUB-ASSEMBLY (for Manual Transmission) (See page IP-32)
28. INSTALL PARKING BRAKE HOLE COVER SUB-ASSEMBLY (See page IP-32)
29. INSTALL RADIO RECEIVER ASSEMBLY (See page AV-56)
30. INSTALL INTEGRATION CONTROL AND PANEL ASSEMBLY (See page IP-32)
31. INSTALL INSTRUMENT PANEL GARNISH LH (See page IP-33)

32. INSTALL INSTRUMENT PANEL GARNISH RH (See page IP-33)
33. INSTALL FRONT PILLAR GARNISH RH (See page IR-43)
34. INSTALL FRONT PILLAR GARNISH LH (See page IR-43)
35. INSTALL ASSIST GRIP ASSEMBLY (See page IR-43)
36. INSTALL ASSIST GRIP PLUG (See page IR-44)
37. INSTALL FRONT DOOR OPENING TRIM WEATHERSTRIP LH (See page IP-33)
38. INSTALL FRONT DOOR OPENING TRIM WEATHERSTRIP RH (See page IP-33)
39. INSTALL COWL SIDE TRIM BOARD RH (See page IR-45)
40. INSTALL COWL SIDE TRIM BOARD LH (See page IR-45)
41. INSTALL FOOTREST CLIP (See page IR-2)
42. INSTALL FRONT FLOOR FOOTREST (See page IR-2)
43. INSTALL FRONT DOOR SCUFF PLATE RH (See page IR-45)
44. INSTALL FRONT DOOR SCUFF PLATE LH (See page IR-45)
45. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL
    Torque: 3.9 N*m (40 kgf*cm, 35 in.*lbf)
46. INSPECT SRS WARNING LIGHT
    (See page RS-29)

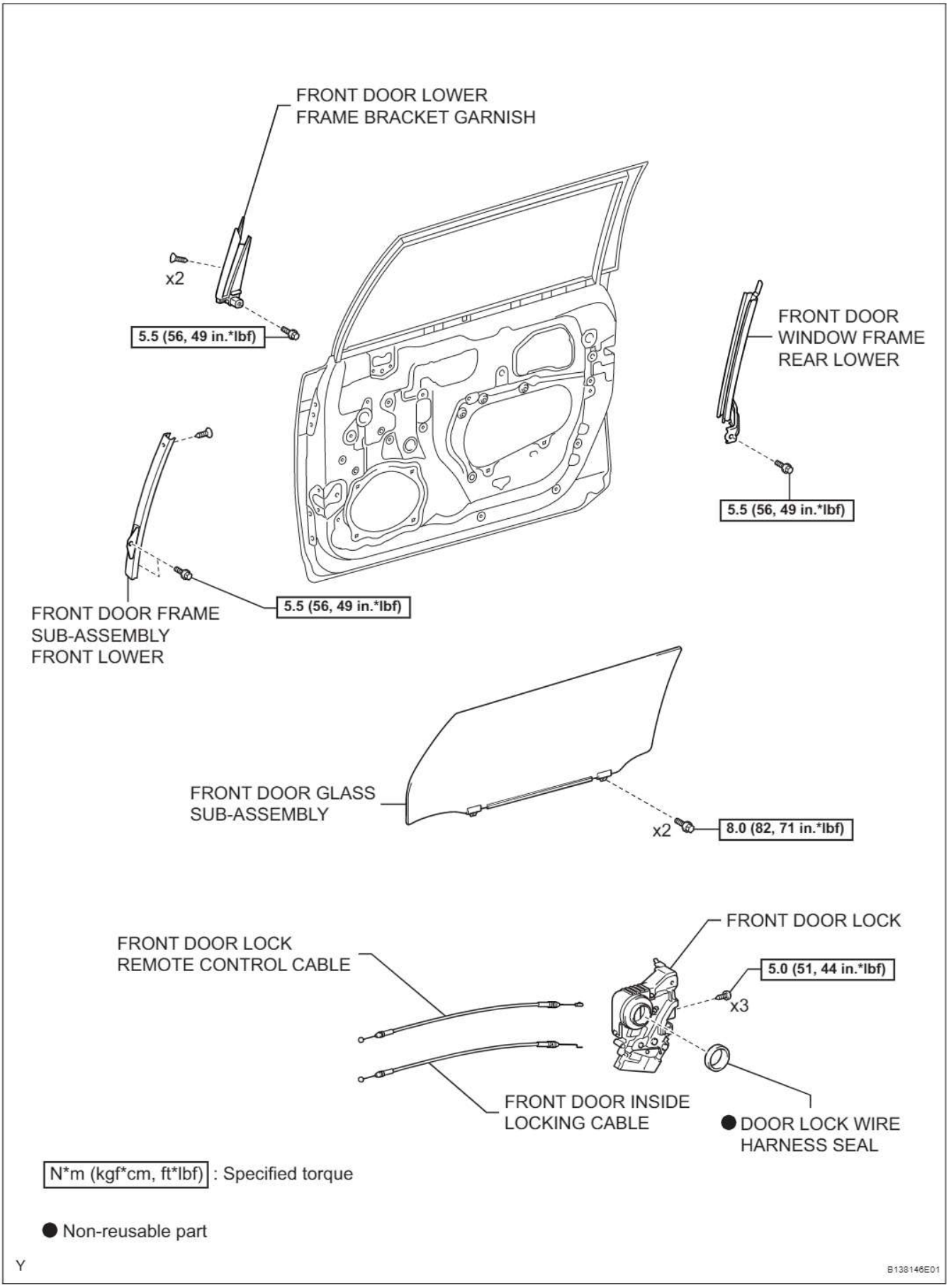
FRONT DOOR LOCK

COMPONENTS




FRONT DOOR GLASS RUN
FRONT DOOR INSIDE PANEL PLATE
x4
5.5 (56, 49 in.*lbf)
30 (306, 22)
FRONT DOOR CHECK ASSEMBLY
● FRONT DOOR SERVICE HOLE COVER
FRONT DOOR WEATHERSTRIP
N*m (kgf*cm, ft*lbf) : Specified torque
● Non-reusable part
Y
B138145E01

DL

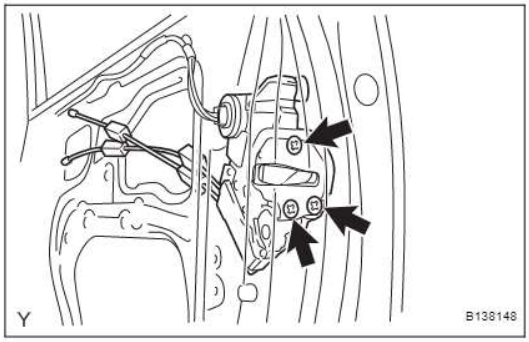

FRONT DOOR LOWER
FRAME BRACKET GARNISH
x2
5.5 (56, 49 in.*lbf)
FRONT DOOR
WINDOW FRAME
REAR LOWER
5.5 (56, 49 in.*lbf)
5.5 (56, 49 in.*lbf)
FRONT DOOR FRAME
SUB-ASSEMBLY
FRONT LOWER
FRONT DOOR GLASS
SUB-ASSEMBLY
x2
8.0 (82, 71 in.*lbf)
FRONT DOOR LOCK
FRONT DOOR LOCK
REMOTE CONTROL CABLE
5.0 (51, 44 in.*lbf)
x3
FRONT DOOR INSIDE
LOCKING CABLE
● DOOR LOCK WIRE
HARNESS SEAL
N*m (kgf*cm, ft*lbf) : Specified torque
● Non-reusable part
Y
B138146E01

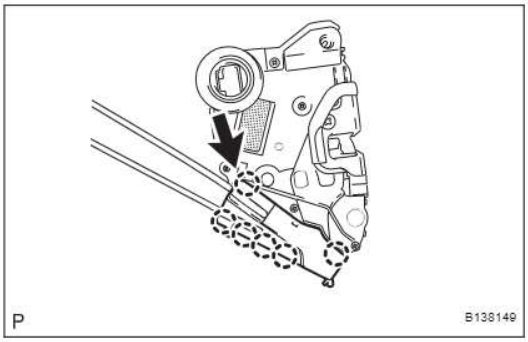
REMOVAL

HINT:

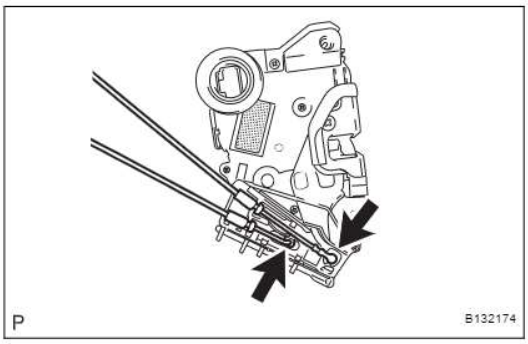
- Use the same procedure for both the RH and LH sides.
- The procedure described below is for the RH side.

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
2. **REMOVE FRONT ARMREST BASE UPPER PANEL (See page ED-9)**
3. **REMOVE FRONT DOOR TRIM BOARD SUB-ASSEMBLY (See page ED-9)**
4. **REMOVE FRONT NO. 2 DOOR SERVICE HOLE COVER (See page ED-10)**
5. **REMOVE OUTER REAR VIEW MIRROR (See page MI-8)**
6. **REMOVE FRONT DOOR GLASS OUTER WEATHERSTRIP ASSEMBLY (See page ET-39)**
7. **REMOVE FRONT NO. 1 SPEAKER (See page AV-58)**
8. **REMOVE FRONT DOOR SERVICE HOLE COVER (See page ED-11)**
9. **REMOVE FRONT DOOR INSIDE PANEL PLATE (See page ED-11)**
10. **REMOVE FRONT DOOR CHECK ASSEMBLY (See page ED-11)**
11. **REMOVE FRONT DOOR WEATHERSTRIP (See page ED-11)**
12. **REMOVE FRONT DOOR GLASS RUN (See page ED-12)**
13. **REMOVE FRONT DOOR FRAME SUB-ASSEMBLY FRONT LOWER (See page ED-12)**
14. **REMOVE FRONT DOOR LOWER FRAME BRACKET GARNISH (See page ED-12)**
15. **REMOVE FRONT DOOR WINDOW FRAME REAR LOWER (See page ED-12)**
16. **REMOVE FRONT DOOR GLASS SUB-ASSEMBLY (See page ED-13)**
17. **REMOVE FRONT DOOR LOCK**
    (a) Using "Torx" socket wrench T30, loosen the 3 screws.
    (b) Move the front door lock downward, remove the outside handle frame link and remove the front door lock.

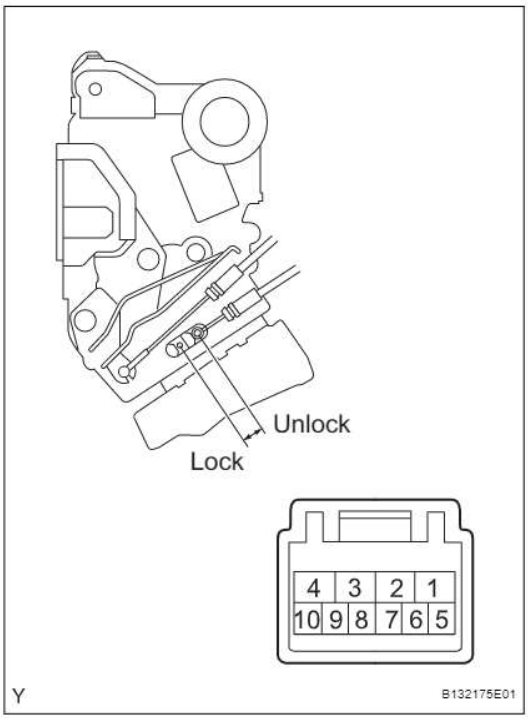




(c) Disengage the 5 claws and open the cover.



(d) Disconnect the front door lock remote control cable and the front door inside locking cable.
(e) Remove the door lock wire harness seal.



INSPECTION

1. INSPECT FRONT DOOR LOCK LH

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

Standard

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 4 Battery negative (-) → Terminal 2	Locks
Battery positive (+) → Terminal 2 Battery negative (-) → Terminal 4	Unlocks

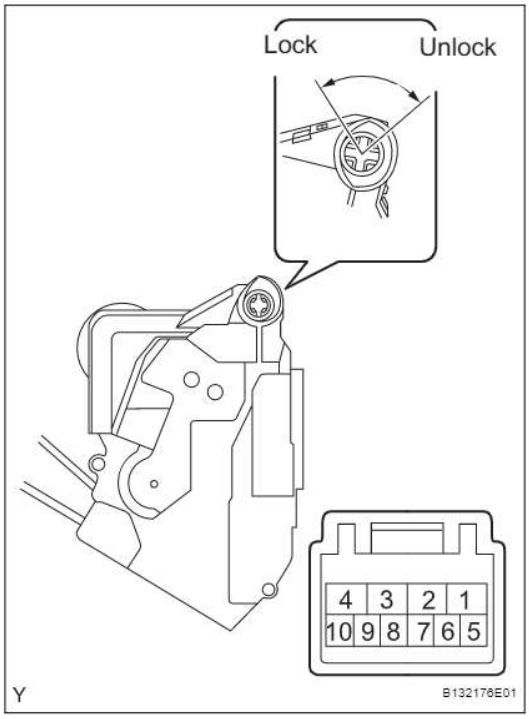
If the result is not as specified, replace the front door lock.

(b) Check the resistance of the unlock detection switch.
(1) Using an ohmmeter, measure the resistance and check the results in accordance with the value(s) in the table below.

Standard Resistance

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

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



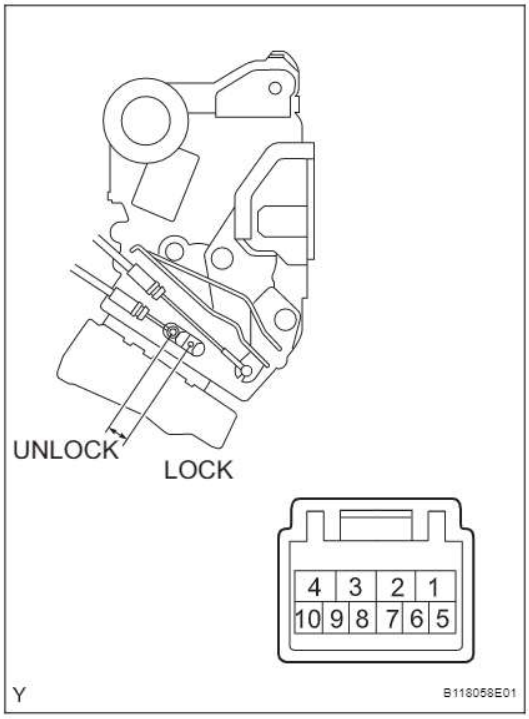
(c) Check the resistance of the door lock and unlock switch.

(1) Using an ohmmeter, measure the resistance and check the results in accordance with the value(s) in the table below.

Standard Resistance

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

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



2. INSPECT FRONT DOOR LOCK RH

(a) Check the operation.

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

Standard

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 3 Battery negative (-) → Terminal 1	Locks
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 3	Unlocks

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

(b) Check the resistance of the unlock detection switch.

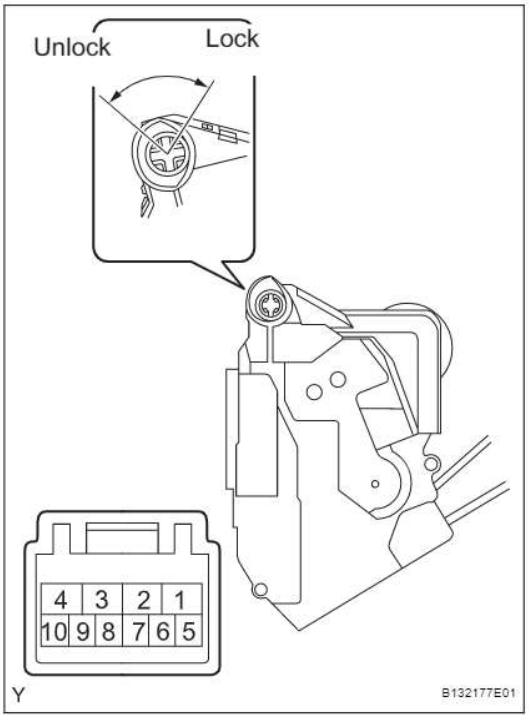
(1) Using an ohmmeter, measure the resistance and check the results in accordance with the value(s) in the table below.

Standard Resistance

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

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

DL



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

(1) Using an ohmmeter, measure the resistance and check the results in accordance with the value(s) in the table below.

Standard Resistance

Tester Connection	Door Lock Condition	Specified Condition
6 - 8	Locked	Below 1 Ω
6 - 8	Unlocked	10 kΩ or higher
5 - 8	Locked	10 kΩ or higher
5 - 8	Unlocked	Below 1 Ω

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

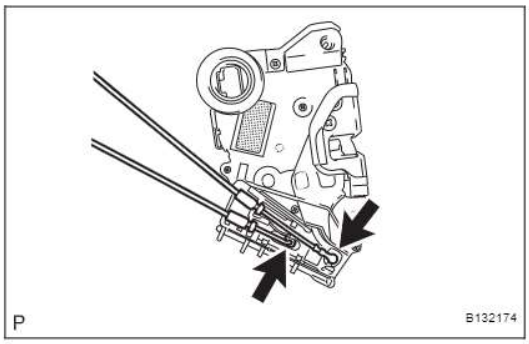
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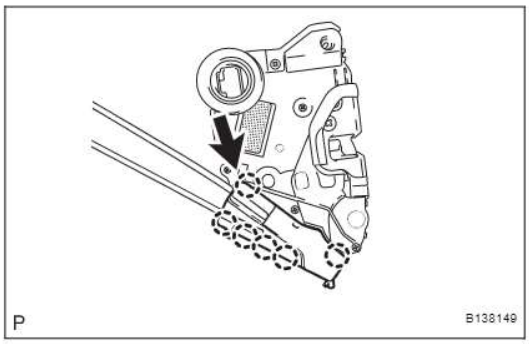
INSTALLATION

1. **INSTALL FRONT DOOR LOCK**
   NOTICE:
   - **If reusing a door lock that has been removed, replace the packing in the connecting part with new.**
   - **Make sure that no grease or dirt adheres to the packing surface in the connecting part.**

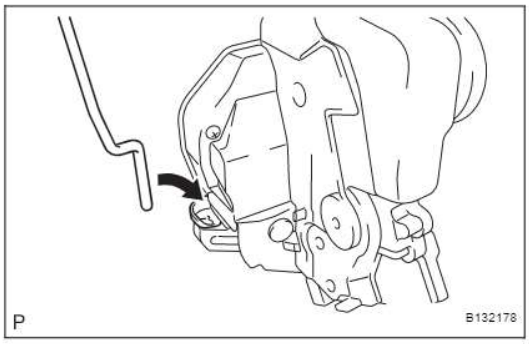
   (a) Apply MP grease to the sliding and rotating areas of the front door lock.

   (b) Connect the front door lock remote control cable and the front door inside locking cable.

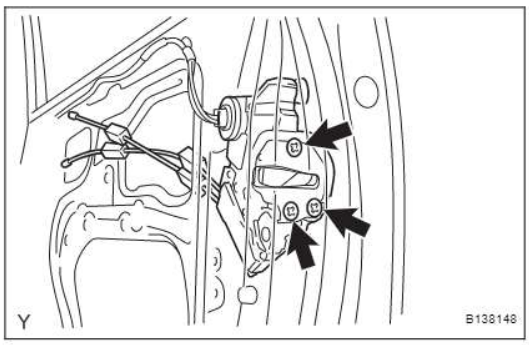




   (c) Engage the 5 claws and close the cover.



   (d) Insert the door lock open rod into the front door lock, then set it to the door panel.
   NOTICE:
   Make sure that the outside handle link is securely engaged with the door lock.



   (e) Apply adhesive to the threads of the screws.
   Adhesive:
   Toyota Genuine Adhesive 1324, Three Bond 1324 or the equivalent

   (f) Using "Torx" socket wrench T30, install the front door lock with the 3 screws.
   Torque: 5.0 N*m (51 kgf*cm, 44 in.*lbf)

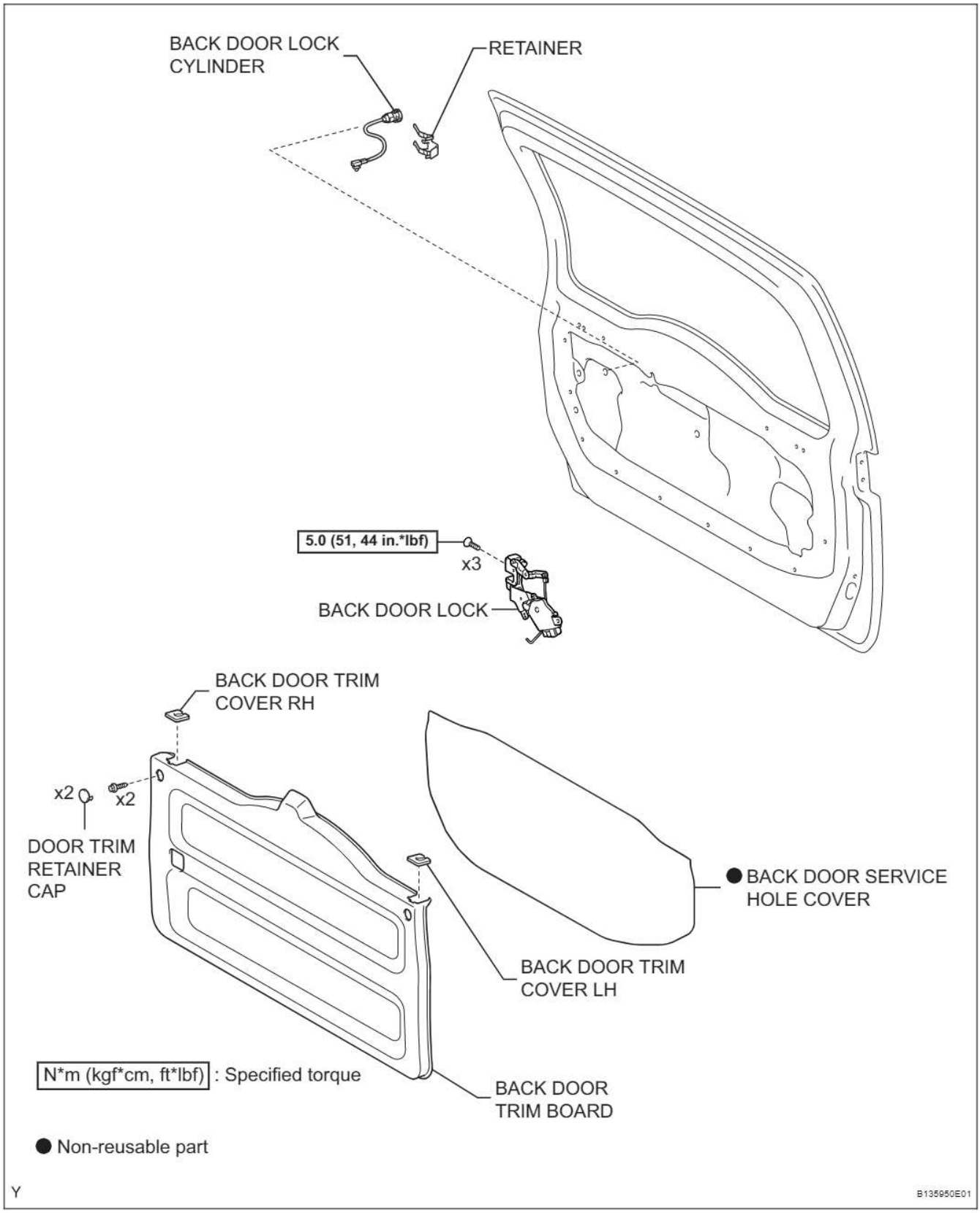
2. **INSTALL FRONT DOOR GLASS SUB-ASSEMBLY**
   (See page ED-20)

DL

3. INSTALL FRONT DOOR WINDOW FRAME REAR LOWER (See page ED-21)
4. INSTALL FRONT DOOR LOWER FRAME BRACKET GARNISH (See page ED-21)
5. INSTALL FRONT DOOR FRAME SUB-ASSEMBLY FRONT LOWER (See page ED-21)
6. INSTALL FRONT DOOR GLASS RUN (See page ED-21)
7. INSTALL FRONT DOOR WEATHERSTRIP (See page ED-22)
8. INSTALL FRONT DOOR CHECK ASSEMBLY (See page ED-23)
9. INSTALL FRONT DOOR INSIDE PANEL PLATE (See page ED-23)
10. INSTALL FRONT DOOR SERVICE HOLE COVER (See page ED-11)
11. INSTALL FRONT NO. 1 SPEAKER (See page AV-58)
12. INSTALL FRONT DOOR GLASS OUTER WEATHERSTRIP ASSEMBLY (See page ET-40)
13. INSTALL OUTER REAR VIEW MIRROR (See page MI-11)
14. INSTALL FRONT NO. 2 DOOR SERVICE HOLE COVER (See page ED-24)
15. INSTALL FRONT DOOR TRIM BOARD SUB-ASSEMBLY (See page ED-24)
16. INSTALL FRONT ARMREST BASE UPPER PANEL (See page ED-25)
17. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL
    Torque: 3.9 N*m (40 kgf*cm, 35 in.*lbf)

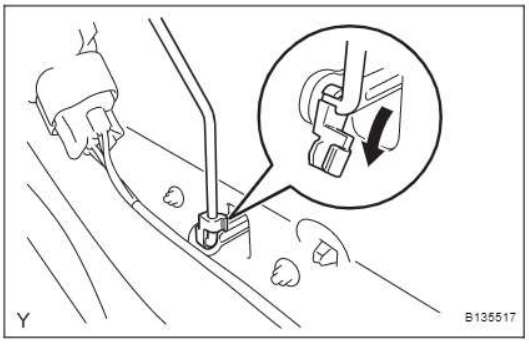
BACK DOOR LOCK

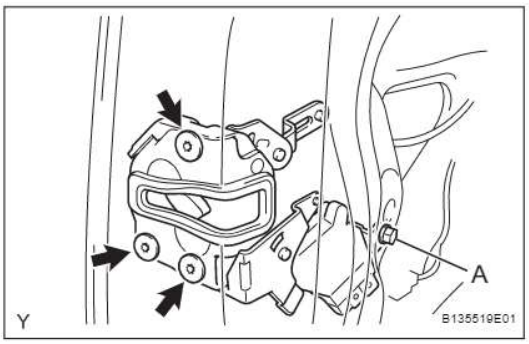
COMPONENTS



REMOVAL

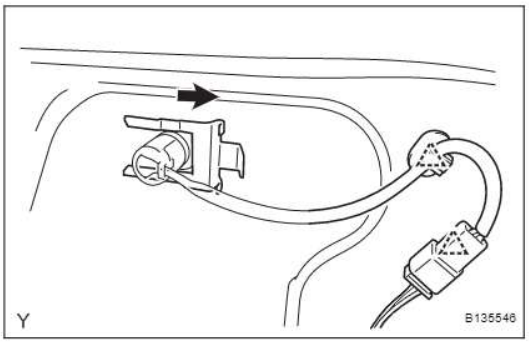
1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
2. **REMOVE BACK DOOR TRIM COVER RH (See page ED-48)**
3. **REMOVE BACK DOOR TRIM COVER LH**
   HINT:
   Use the same procedure as for the RH side.
4. **REMOVE DOOR TRIM RETAINER CAP (See page ED-48)**
5. **REMOVE BACK DOOR TRIM BOARD (See page ED-49)**
6. **REMOVE BACK DOOR SERVICE HOLE COVER (See page ED-49)**
7. **REMOVE BACK DOOR LOCK**
   (a) Disconnect the back door lock rod as shown in the illustration.
   (b) Disconnect the connector.

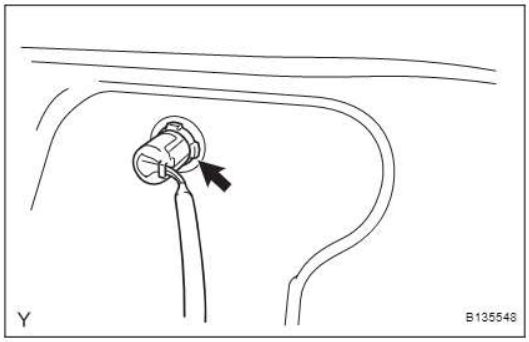




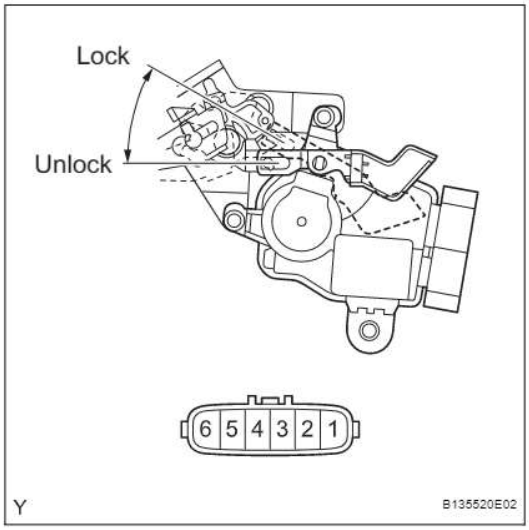
   (c) Loosen bolt A.
   (d) Using "Torx" socket wrench T30, remove the 3 screws and the back door lock.
   NOTICE:
   Do not drop or damage the back door lock when removing the screws.
   HINT:
   Remove the back door lock through the service hole.

8. **REMOVE BACK DOOR LOCK CYLINDER**
   (a) Disconnect the connector and the 2 clamps, then remove the retainer.





(b) Remove the back door lock cylinder.



INSPECTION

1. INSPECT BACK DOOR LOCK

(a) Check the operation of the back door lock actuator.

(1) Apply battery voltage to the back door lock actuator and check the operation of the back door lock motor.

Standard

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 2 Battery negative (-) → Terminal 1	Unlocks
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 2	Locks

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

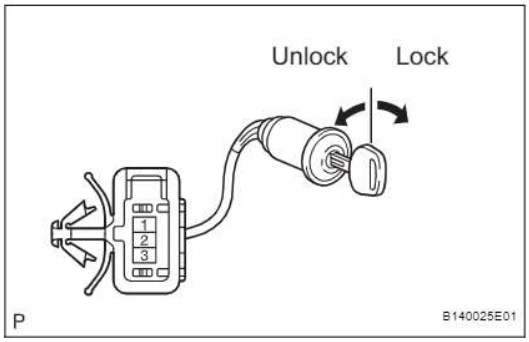
(b) Check the resistance of the door lock and unlock switch.

(1) Using an ohmmeter, measure the resistance and check the results in accordance with the value(s) in the table below.

Standard Resistance

Tester Connection	Door Lock Condition	Specified Condition
4 - 5	Unlocked	Below 1 Ω
4 - 5	Locked	10 kΩ or higher
4 - 6	Unlocked	10 kΩ or higher
4 - 6	Locked	Below 1 Ω

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



2. INSPECT BACK DOOR LOCK CYLINDER

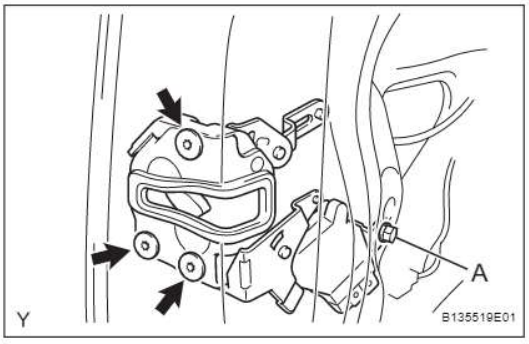
(a) Check the resistance.

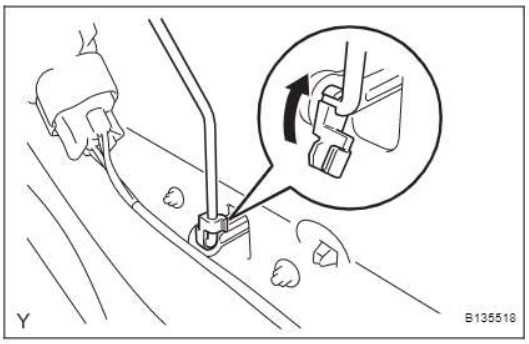
(1) Using an ohmmeter, measure the resistance between the terminals when the cylinder is operated with a key.

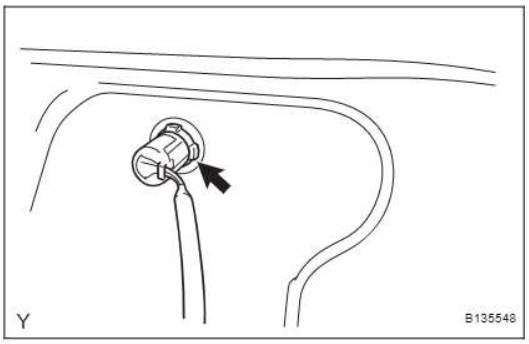
Standard Resistance

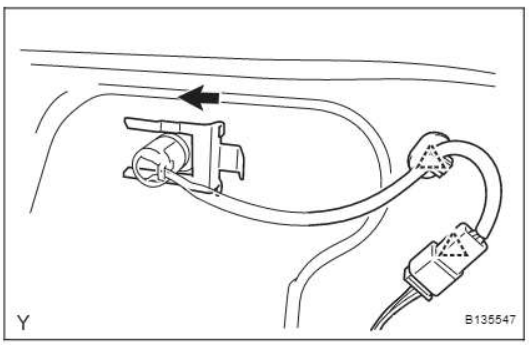
Tester Connection	Condition	Specified Condition
1 - 2	Locked	Below 1 Ω
1 - 2	Unlocked	10 kΩ or higher
1 - 3	Locked	10 kΩ or higher
1 - 3	Unlocked	Below 1 Ω

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









INSTALLATION

1. **INSTALL BACK DOOR LOCK**
   (a) Apply MP grease to the sliding and rotating areas of the back door lock.
   (b) Using "Torx" socket wrench T30, install the back door lock with the 3 screws.
   Torque: 5.0 N*m (51 kgf*cm, 44 in.*lbf)
   (c) Tighten bolt A.
   Torque: 5.0 N*m (51 kgf*cm, 44 in.*lbf)
   (d) Connect the connector.
   (e) Connect the back door lock rod as shown in the illustration.

2. **INSTALL BACK DOOR LOCK CYLINDER**
   (a) Install the back door lock cylinder.
   (b) Install the retainer, then connect the 2 clamps.

3. **INSTALL BACK DOOR SERVICE HOLE COVER (See page ED-56)**

4. **INSTALL BACK DOOR TRIM BOARD (See page ED-57)**

5. **INSTALL DOOR TRIM RETAINER CAP (See page ED-57)**

6. **INSTALL BACK DOOR TRIM COVER RH (See page ED-57)**

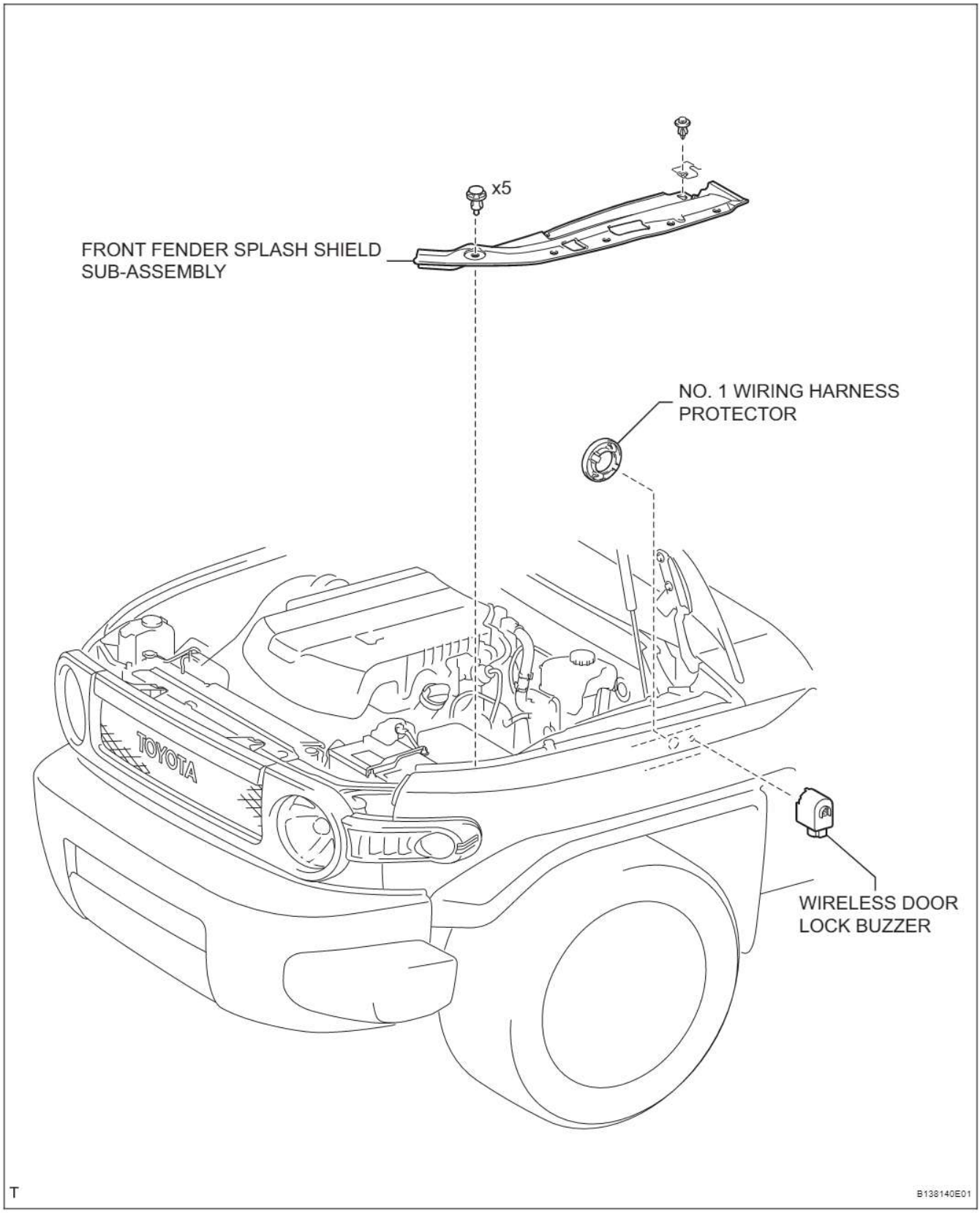
7. **INSTALL BACK DOOR TRIM COVER LH**
   HINT:
   Use the same procedure as for the RH side.

8. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
   Torque: 3.9 N*m (40 kgf*cm, 35 in.*lbf)

DL

WIRELESS DOOR LOCK BUZZER

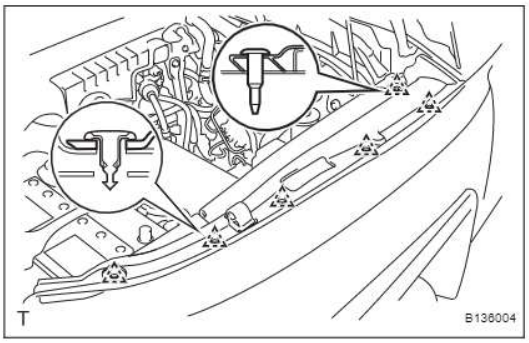
COMPONENTS



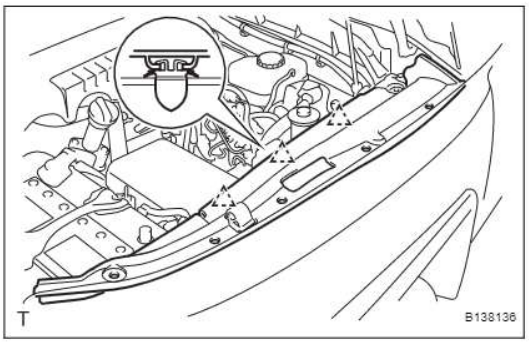
REMOVAL

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

2. **REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY**



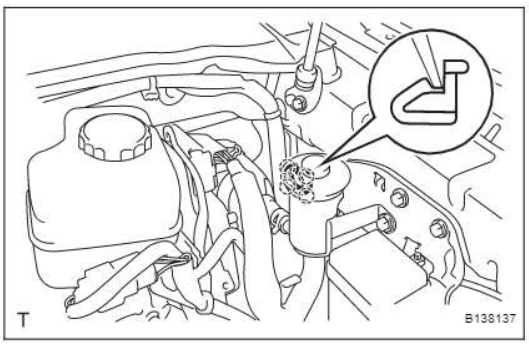
(a) Disengage the 6 clips.



(b) Disengage the 3 clips and remove the front fender splash shield.

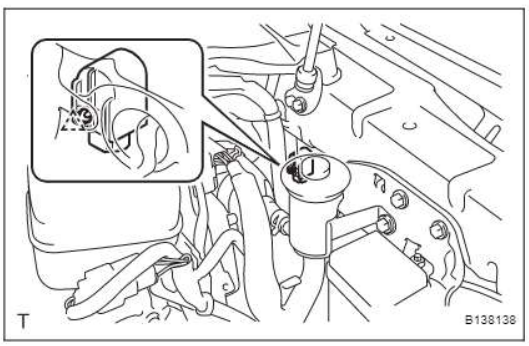
DL

3. **REMOVE NO. 1 WIRING HARNESS PROTECTOR**

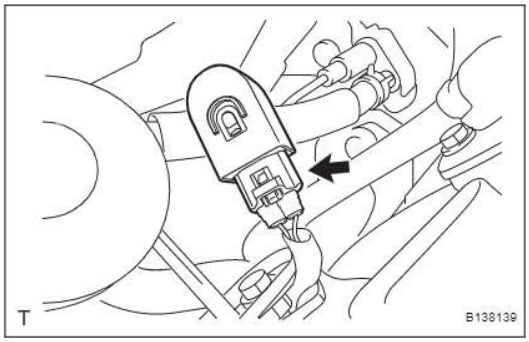


(a) Disengage the 4 claws and remove the No. 1 wiring harness protector.

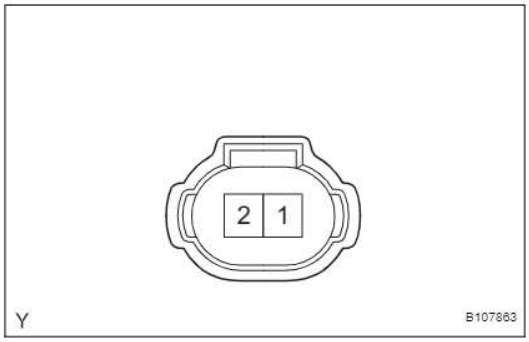
4. **REMOVE WIRELESS DOOR LOCK BUZZER**



(a) Disengage the clamp of the wireless door lock buzzer.



(b) Disconnect the connector and remove the wireless door lock buzzer.



INSPECTION

1. INSPECT WIRELESS DOOR LOCK BUZZER

(a) Check the resistance.

(1) Using an ohmmeter, measure the resistance between the terminals.

Standard Resistance

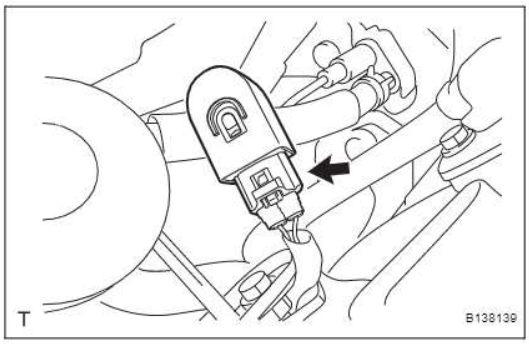
Tester Connection	Specified Condition
1 (B) - 2 (B2)	Approximately 1 kΩ

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

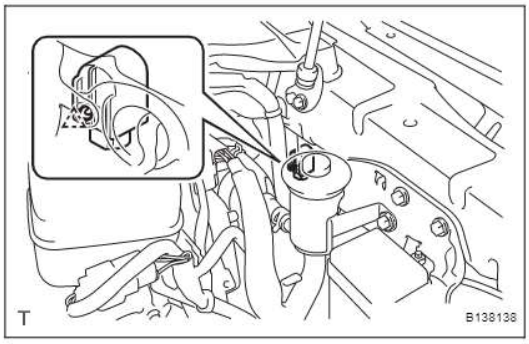
INSTALLATION

1. INSTALL WIRELESS DOOR LOCK BUZZER

(a) Connect the connector.

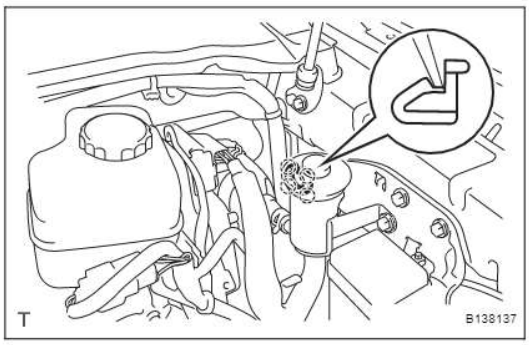


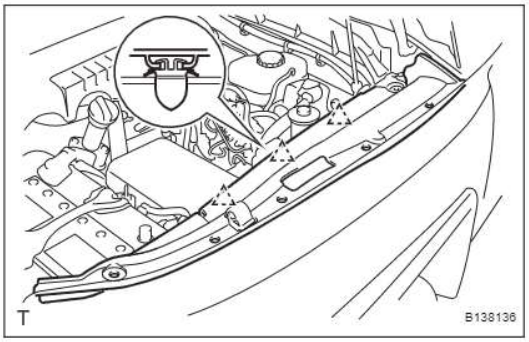
(b) Engage the clamp and install the wireless door lock buzzer.



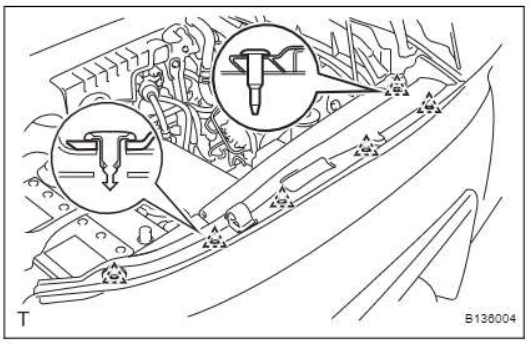
2. INSTALL NO. 1 WIRING HARNESS PROTECTOR

(a) Engage the 4 claws and install the No. 1 wiring harness protector.





3. **INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY**
   (a) Engage the 3 clips and install the front fender splash shield.



   (b) Engage the 6 clips.

4. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
   Torque: 3.9 N*m (40 kgf*cm, 35 in.*lbf)

DL