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POWER DOOR LOCK CONTROL SYSTEM

PARTS LOCATION

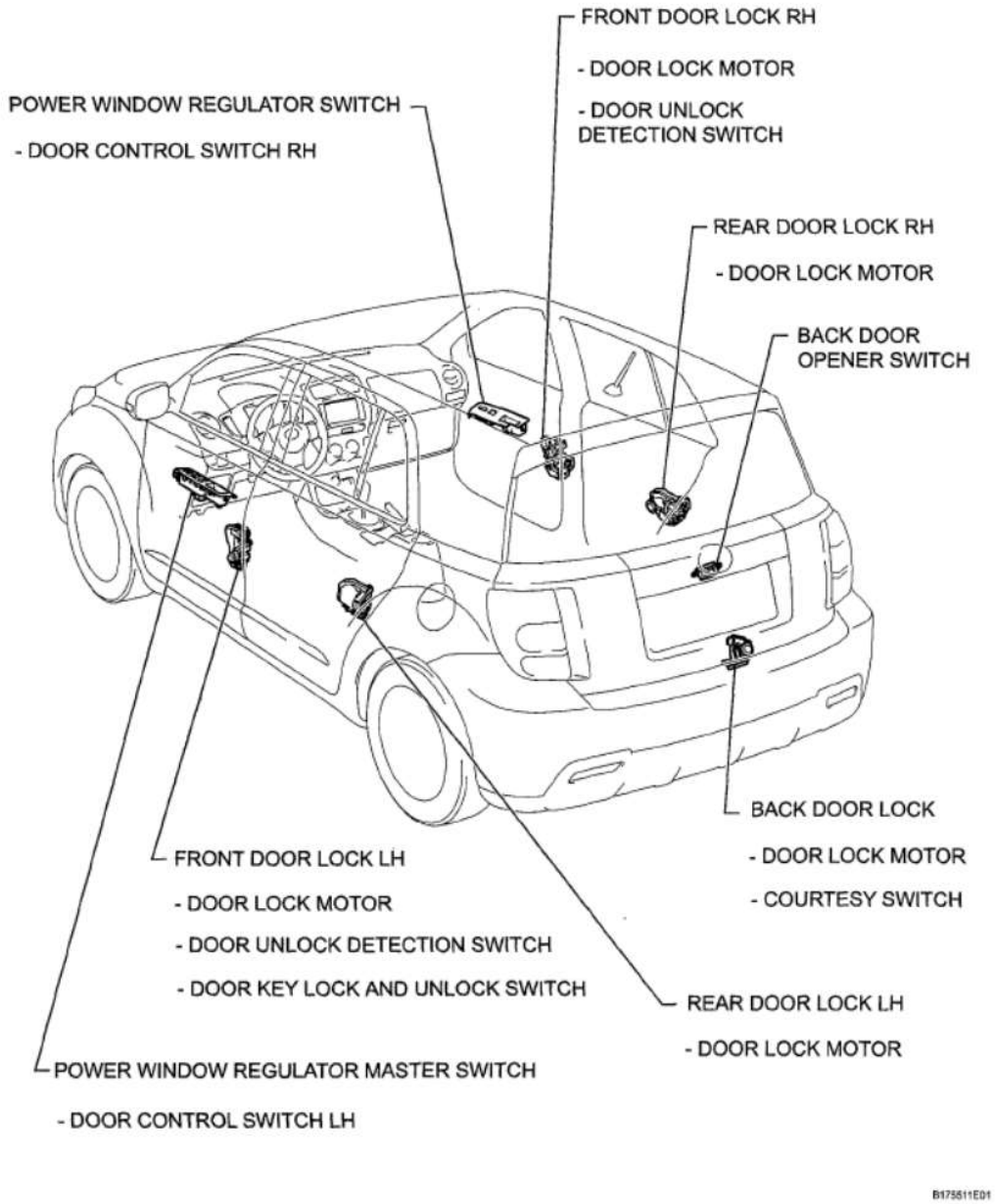


Fig. 1: Identifying Power Door Lock Control System Parts Location (1 Of 2)
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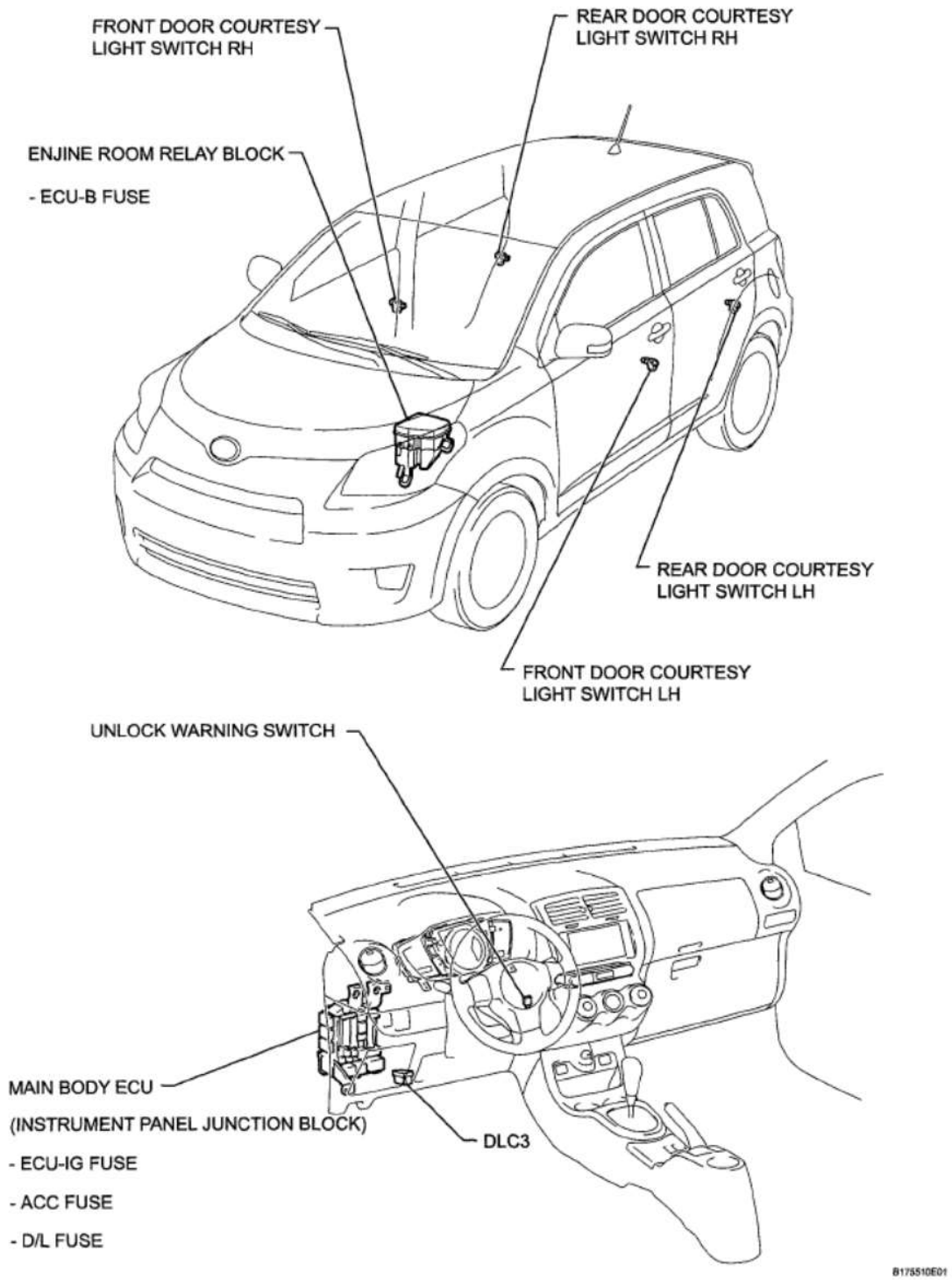


Fig. 2: Identifying Power Door Lock Control System Parts Location (2 Of 2)
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SYSTEM DIAGRAM

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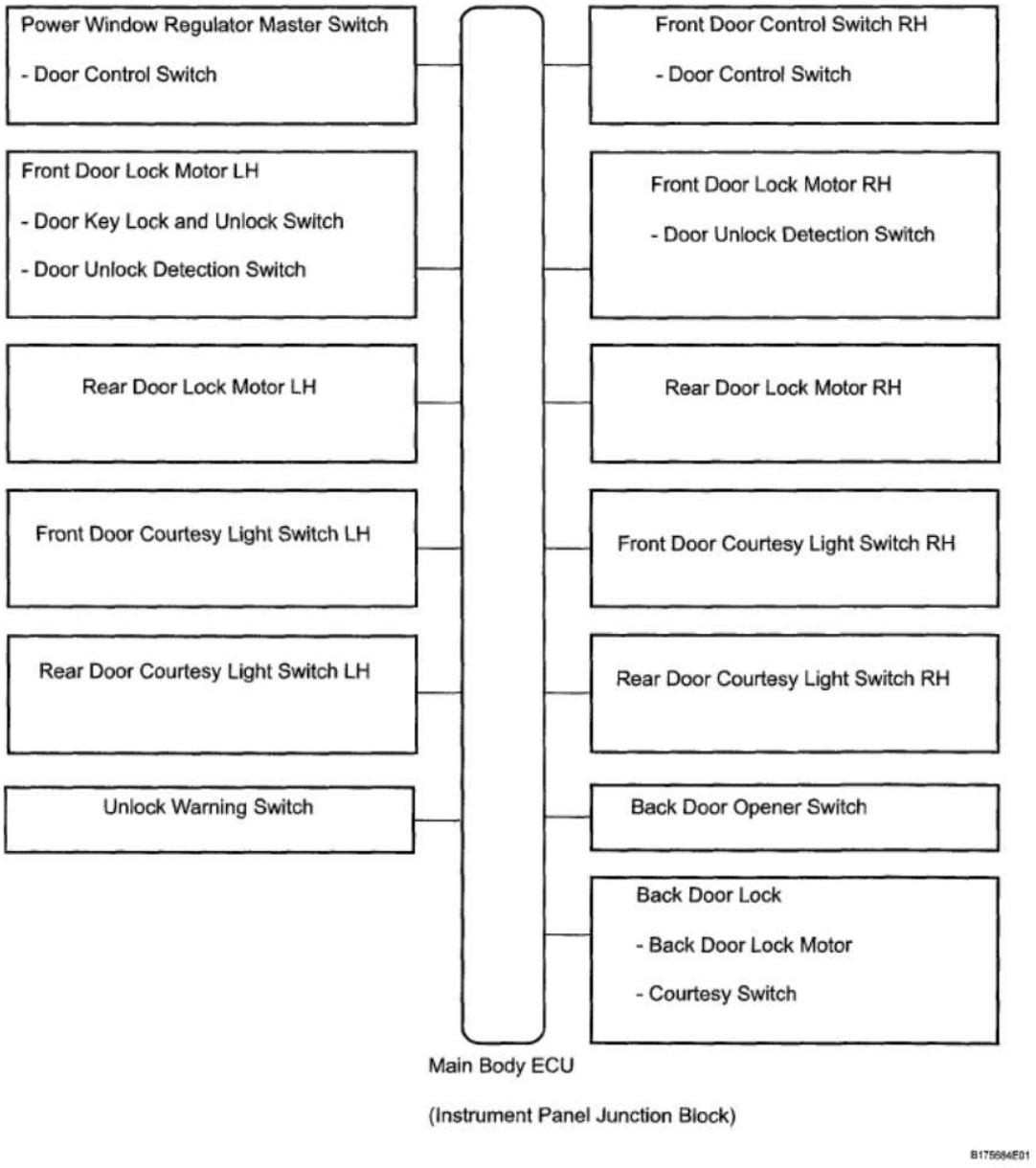


Fig. 3: Power Door Lock Control System Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

SYSTEM DESCRIPTION

1. POWER DOOR LOCK CONTROL SYSTEM DESCRIPTION

a. The power door lock system locks/unlocks all the doors. The master switch and the door control switch on the passenger door send lock/unlock request signals to the main body ECU. Then, the main body ECU sends these request signals to the lock motors in each door to lock/unlock all the doors at once in response to the inputs. Operating the driver's door lock using a mechanical key sends lock/unlock request signals to the main body ECU via the master switch. "2-step unlock

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function" is optional for the key-linked lock on the driver side door.

2. **BACK DOOR OPENER SYSTEM DESCRIPTION**
   a. The back opener is an electric type.
   b. The main body ECU activates the back door lock motor when the ON signal from the back door opener switch is received.
3. **FUNCTION OF MAIN COMPONENT**

FUNCTION OF MAIN COMPONENT

Component	Function
Power Window Regulator Master Switch	Door control switch on master switch locks/unlocks all doors
Door Control Switch	Door control switch on passenger side door locks/unlocks all doors
Door Courtesy Light Switch	Placed on each door Detects door status (open or closed) and outputs data to main body ECU Turns on when door is open and turns off when door is closed
Front Door Lock Motor	• Motor locks/unlocks door • Built-in door key lock and unlock switch (key-linked) detects door key operation's door status (locked or unlocked) and outputs data to main body ECU • Built-in detection switch detects door status (locked or unlocked) and outputs data to main body ECU This switch turns off when door is locked and turns on when door is unlocked
Rear Door Lock Motor	• Motor locks/unlocks door • Built-in detection switch detects door status (locked or unlocked) and outputs data to main body ECU This switch turns off when door is locked and turns on when door is unlocked
Back Door Opener Switch Assembly	When the switch is pushed, an opener switch ON signal is sent to the main body ECU
Back Door Lock Motor	Operates when signals from the main body ECU are received
Back Door Courtesy Switch (built into back door lock motor)	Detects the back door open/close condition signal and outputs to the main body ECU

4. **SYSTEM FUNCTION**

HINT:

The following functions' default settings are ON. Some of these functions can be customized (see **CUSTOMIZE PARAMETERS**).

a. 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:

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FUNCTION OUTLINE

Function	Outline
Manual Lock and Unlock Function	Locks/unlocks all doors by door control switch's lock operation (manual operation)
Back Door Open Function	Opens back door by back door opener switch ON
One-motion Open	When the door is locked, this function enables the door to be unlocked by merely pulling the inside handle lever of the door
Key-linked Lock	This function, which is linked with the key cylinder, can lock all the doors when a lock operation is effected
Key Lock-in Prevention	When the key is in the ignition key cylinder and a door lock operation is performed while the driver's door is open, all the doors will be unlocked

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- Use the following procedures to troubleshoot the power door lock control system.
- *: Use a Techstream.

1. **VEHICLE BROUGHT TO WORKSHOP**
2. **INSPECT BATTERY VOLTAGE**

   Standard voltage: 11 to 14 V

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

3. **PROBLEM SYMPTOMS TABLE**

   Result

   RESULT REFERENCE

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: Go to Next Step

4. **OVERALL ANALYSIS AND TROUBLESHOOTING***
   a. Operation Check (see **OPERATION CHECK**)
   b. Terminals of ECU (see **TERMINALS OF ECU**)
   c. DATA LIST/ACTIVE TEST (see **DATA LIST / ACTIVE TEST**)

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5. **REPAIR OR REPLACE**
6. **CONFIRMATION TEST***

NEXT : END

OPERATION CHECK

1. **CHECK ELECTRICAL DOOR LOCK OPERATION**
   a. Check the basic function.
      1. Check that all doors lock when the door lock control switch (for manual operation) is turned to LOCK and all doors unlock when turned to UNLOCK.
      2. Check that all doors lock when the driver side door lock key cylinder is turned to LOCK using the key.
      3. 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 unlock function).
   b. Check the key lock-in prevention function.

      NOTE: In order to prevent the key from being locked-in, the inspection should be made with the driver side door window open.

      1. Turn the ignition switch ON.
      2. With the driver side door open, check that all doors unlock immediately after the door lock knob for the driver side door is turned to LOCK.
      3. With the driver side door open, check that all doors unlock immediately after the door control switch (for manual operation) is turned to LOCK.
      4. With the driver side door open, turn the driver side door lock knob to LOCK and hold it for 2 seconds or more, and then close the driver side door. Then check that all doors unlock.
   c. Check the security function.
      1. Close all doors with the driver side door glass open so that the door control switch can be operated from outside the vehicle.
      2. Pull out the key, open the driver side door and then close and lock the door without using the key. Then, check that all doors do not unlock when the door control switch (for manual operation) is turned to UNLOCK from outside the vehicle.
      3. Pull out the key, close and lock the driver side door with the key. Under this condition, check that all doors do not unlock when the door control switch (for manual operation) is turned to UNLOCK from outside the vehicle.
      4. Pull out the key, close the driver side door and lock the door with the wireless door lock operation. Then, check that all doors do not unlock when the door control switch (for manual operation) is turned to UNLOCK from outside the vehicle.

         HINT:

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Check that the security function is canceled under the following conditions.

- The ignition switch is turned ON.
- The driver side door is unlocked using the key.
- The door control switch (for manual operation) is turned to UNLOCK after the door control knob is turned to UNLOCK manually.
- The doors are unlocked by wireless operation.

d. Check the illumination function.
   1. Set the room light switch in the DOOR position.
   2. With all the doors locked, check that all doors unlock when the driver side door lock cylinder is turned to UNLOCK using the key and that the room light turns on.
   3. Check that the room light turns off in approximately 15 seconds after the doors have not been opened.

CUSTOMIZE PARAMETERS

1. CUSTOMIZING FUNCTION WITH TECHSTREAM

HINT:

The following items can be customized.

NOTE:

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

a. Connect a Techstream to the DLC3.
b. Turn the ignition switch ON.
c. Turn the tester on.
d. Enter the following menus:
   1. Select: Body Electrical / Main Body / Utility / Customize.
e. Select the setting by referring to the table below.

Main Body

CUSTOMIZE PARAMETERS

Display	Default	Contents	Setting
Unlock Key Twice	ON	Function that unlocks only driver side door when driver side door key cylinder is turned to unlock once, and unlock all doors when it is turned to unlock twice. For OFF setting, turning it once unlocks all	ON/OFF

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		doors	

PROBLEM SYMPTOMS TABLE

HINT:

Use the table below to help determine the cause 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

PROBLEM SYMPTOMS TABLE - POWER DOOR LOCK CONTROL SYSTEM

Symptom	Suspected Area	See
All doors cannot be locked/unlocked simultaneously by either door control switch or door key cylinder	Power source circuit (Main body ECU)	**TERMINALS OF ECU**
	Main body ECU	**TERMINALS OF ECU**
All doors cannot be locked/unlocked simultaneously by driver side door control switch	Door control switch circuit (Driver side)	**DOOR CONTROL SWITCH CIRCUIT**
	Main body ECU	**TERMINALS OF ECU**
All doors cannot be locked/unlocked simultaneously by front passenger side door control switch	Door control switch circuit (front passenger side)	**DOOR CONTROL SWITCH CIRCUIT**
	Main body ECU	**TERMINALS OF ECU**
All doors cannot be locked/unlocked simultaneously by door key cylinder	Driver side door key lock and unlock switch circuit	**DRIVER SIDE DOOR KEY LOCK AND UNLOCK SWITCH CIRCUIT**
	Main body ECU	**TERMINALS OF ECU**
Driver side door lock does not operate	Driver side door lock motor circuit	**DRIVER SIDE DOOR LOCK MOTOR CIRCUIT**
	Main body ECU	**TERMINALS OF ECU**
Passenger side door lock does not operate	Front passenger side door lock motor circuit	**FRONT PASSENGER SIDE DOOR LOCK MOTOR CIRCUIT**
	Main body ECU	**TERMINALS OF ECU**
Rear LH side door lock does not operate	Rear door lock motor circuit	**REAR DOOR LOCK MOTOR CIRCUIT**
	Main body ECU	**TERMINALS OF ECU**
Rear RH side door lock does not operate	Rear door lock motor circuit	**REAR DOOR LOCK MOTOR CIRCUIT**
	Main body ECU	**TERMINALS OF ECU**
Back door lock does not operate	Back door lock motor circuit	**BACK DOOR LOCK MOTOR CIRCUIT**
	Main body ECU	**TERMINALS OF ECU**

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Key lock-in prevention function does not work properly (manual operation and key-linked lock are active)	Door courtesy light switch circuit (Driver side)	**DOOR COURTESY SWITCH CIRCUIT**
	Unlock warning switch circuit	**KEY REMINDER BUZZER DOES NOT SOUND**
	Main body ECU	**TERMINALS OF ECU**
One or more doors cannot be locked/unlocked simultaneously	Driver side door unlock detection switch circuit	**DRIVER SIDE DOOR UNLOCK DETECTION SWITCH CIRCUIT**
	Front passenger side door unlock detection switch circuit	**FRONT PASSENGER SIDE DOOR UNLOCK DETECTION SWITCH CIRCUIT**
	Main body ECU	**TERMINALS OF ECU**
Only back door cannot be opened (Unlocked)	Back door opener switch circuit	**BACK DOOR OPENER SWITCH CIRCUIT**
	Back door lock motor circuit	**BACK DOOR LOCK MOTOR CIRCUIT**
	Main body ECU	**TERMINALS OF ECU**

TERMINALS OF ECU

1. **CHECK MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

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Vehicle Rear Side:

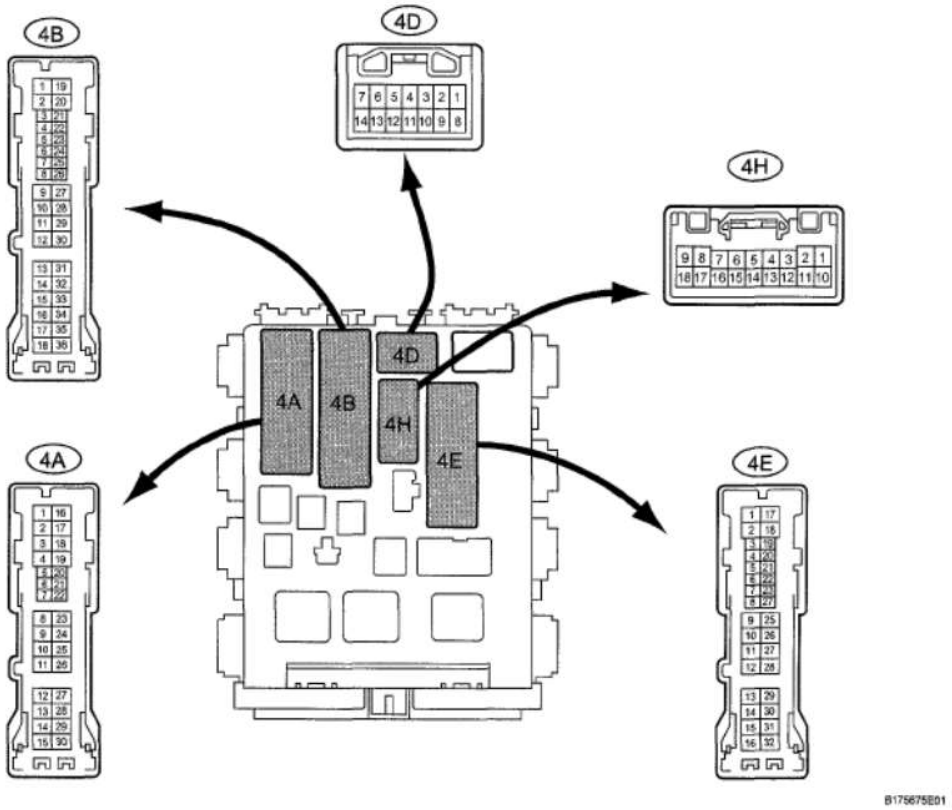


Fig. 4: Identifying Main Body ECU (Instrument Panel Junction Block) Terminals (1 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Vehicle Front Side:

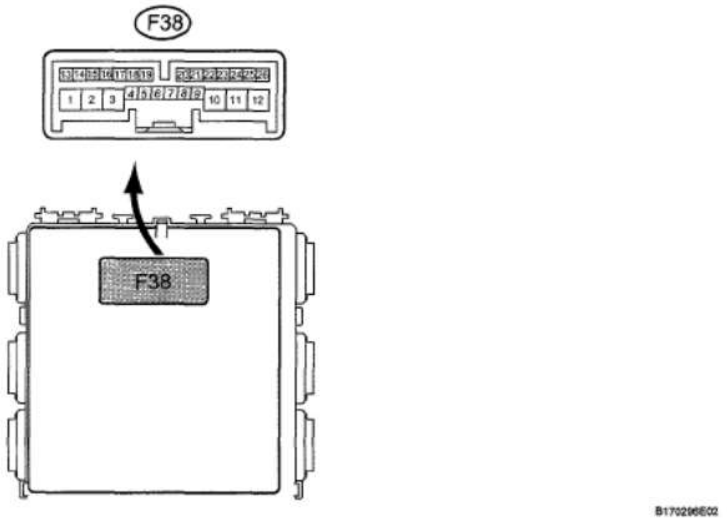


Fig. 5: Identifying Main Body ECU (Instrument Panel Junction Block) Terminals (2 Of 2)

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a. Disconnect the 4B and 4E junction block connectors.
b. Measure the resistance and voltage of the wire harness side connectors.

RESISTANCE AND VOLTAGE SPECIFICATION

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
4E-17 (GND1) - Body ground	W-B - Body ground	Ground	Always	Below 1 ohms
4B-30 (BECU) - 4E-17 (GND1)	L - W-B	Battery (power supply)	Always	11 to 14 V

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

c. Reconnect the 4B and 4E junction block connectors.
d. Measure the voltage of the wire harness side connectors.

VOLTAGE SPECIFICATION

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
4D-7 (KSW) - Body ground	Y - Body ground	Key unlock warning switch input	Key inserted	11 to 14 V
			No key in ignition key cylinder	Below 1 V
4A-21 (DCTY) - Body ground	R - Body ground	Driver side door courtesy light switch input	Driver side door closed	11 to 14 V
			Driver side door open	Below 1 V
4A-24 (PCTY) - Body ground	L - Body ground	Passenger side door courtesy light switch input	Passenger side door closed	11 to 14 V
			Passenger side door open	Below 1 V
4A-5 (RRTY) - Body ground	G - Body ground	Rear LH door courtesy light switch input	Rear LH door closed	11 to 14 V
			Rear LH door open	Below 1 V
4A-20 (RRTY) - Body ground	L - Body ground	Rear RH door courtesy light switch input	Rear RH door closed	11 to 14 V
			Rear RH door open	Below 1 V
4A-7 (BCTY) - Body ground	SB - Body ground	Back door courtesy switch input	Back side door closed	11 to 14 V
			Back side door open	Below 1 V
4H-4 (L1) - Body ground	LG - Body ground	Door lock motor LOCK drive output	Master switch (door control switch) OFF	Below 1 V
			Master switch (door control switch) ON (LOCK)	11 to 14 V --> Below 1 V
	BR -		Passenger side door control	Below 1 V

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4E-11 (L1)- Body ground	Body ground	Door lock motor LOCK drive output	switch OFF	
			Passenger side door control switch ON (LOCK)	11 to 14 V --> Below 1 V
4H-5 (UL1) - Body ground	O - Body ground	Door lock motor UNLOCK drive output	Master switch (door control switch) OFF	Below 1 V
			Master switch (door control switch) ON (UNLOCK)	11 to 14 V --> Below 1 V
4C-10 (UL1) - Body ground	O - Body ground	Door lock motor UNLOCK drive output	Passenger side door control switch OFF	Below 1 V
			Passenger side door control switch ON (UNLOCK)	11 to 14 V --> Below 1 V
F38-2 (ACTD) - Body ground	SB - Body ground	Front door lock motor LH UNLOCK drive output	Master switch (door control switch) or driver side door key cylinder OFF	Below 1 V
			Master switch (door control switch) or driver side door key cylinder ON (UNLOCK)	11 to 14 V --> Below 1 V
4H-8 (ACT+) - Body ground	O - Body ground	Door lock motor LOCK drive output	Master switch (door control switch) or driver side door key cylinder OFF	Below 1 V
4H-17 (ACT+) - Body ground	W - Body ground			
4A-3 (ACT+) - Body ground	GR - Body ground		Master switch (door control switch) or driver side door key cylinder ON (LOCK)	11 to 14 V --> Below 1 V
4H-18 (ACT-) - Body ground 4A-4 (ACT-) - Body ground	P - Body ground	Door lock motor UNLOCK drive output	Master switch (door control switch) or driver side door key cylinder OFF	Below 1 V
			Master switch (door control switch) or driver side door key cylinder ON (UNLOCK)	11 to 14 V --> Below 1 V
F38-21 (LSWD) - Body ground	L - Body ground	Driver side door lock position switch input	Driver side door UNLOCK	Below 1 V
			Driver side door LOCK	11 to 14 V
F38-5 (LSWP) - Body ground	L - Body ground	Passenger side door lock position switch input	Passenger side door UNLOCK	Below 1 V
			Passenger side door LOCK	11 to 14 V
F38-14 (UL3) - Body ground	Y - Body ground	Front door lock LH key switch input	Driver side door key cylinder OFF	Below 1 V
			Driver side door key cylinder ON (UNLOCK)	11 to 14 V --> Below 1 V
4H-7 (L2) - Body ground	BR - Body ground	Front door lock LH key switch input	Master switch or driver side door key cylinder OFF	Below 1 V
			Master switch or driver side door key cylinder ON (LOCK)	11 to 14 V --> Below 1 V

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F38-7 (BDSU) - Body ground	Y - Body ground	Back door opener switch signal input	Back door opener switch OFF	Below 1 V
			Back door opener switch ON	11 to 14 V --> Below 1 V
F38-1 (TR+) - Body ground	O - Body ground	Back door lock motor drive output	Back door opener switch OFF	Below 1 V
			Back door opener switch ON	11 to 14 V --> Below 1 V

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

DATA LIST / ACTIVE TEST

1. **READ DATA LIST**

HINT:

Using a Techstream to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

NOTE: In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

a. Connect a Techstream to the DLC3.
b. Turn the ignition switch ON.
c. Turn the tester on.
d. Enter the following menus: Body Electrical / Main Body / Data List.
e. According to the display on tester, read on the "Data List".

Main Body:

DATA LIST - MAIN BODY

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
D Door Courtesy SW	Driver side door courtesy light switch signal / ON or OFF	ON Driver side door is open OFF Driver side door is closed	-
P Door Courtesy SW	Passenger side door courtesy light switch signal / ON or OFF	ON Passenger side door is open OFF Passenger side door is closed	-
RL Door	Rear door courtesy light switch LH	ON Rear door LH is open	-

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Courtesy SW	signal / ON or OFF	OFF Rear door LH is closed	
RR Door Courtesy SW	Rear door courtesy light switch RH signal / ON or OFF	ON Rear door RH is open OFF Rear door RH is closed	-
Back Door Courtesy SW	Back door courtesy switch signal / ON or OFF	ON Back door is open OFF Back door is closed	-
D-Door 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-Door Lock Pos SW	Front passenger side door unlock detection switch / ON or OFF	ON Front passenger side door is unlocked OFF Front passenger side door is locked	-
Door Lock SW-Lock	Door control switch lock signal / ON or OFF	ON Door control switch is pushed to lock position OFF Door control switch is not pushed	-
Door Lock SW-Unlock	Door control switch lock signal / ON or OFF	ON Door control switch is pushed to unlock position OFF Door control switch is not pushed	-
Door Key SW-Lock	Driver door lock/unlock switch lock signal (key-linked lock switch) / ON or OFF	ON Driver side door key cylinder is turned to lock position OFF Driver side door key cylinder is not turned	-
Door Key SW-Unlock	Driver door lock/unlock switch unlock signal (key-linked unlock switch) / ON or OFF	ON Driver side door key cylinder is turned to unlock position OFF Driver side door key cylinder is not turned	-
D Door Key SW-UL	Driver door lock/unlock switch unlock signal (2 step key-linked unlock switch) / ON or OFF	ON Driver side door key cylinder is turned to unlock position OFF Driver side door key cylinder is not turned	-
Back Door Open	Back door open judgment / PROHIBIT or PERMIT	PROHIBIT Back door is in LOCK position (prohibited from being unlatched) PERMIT Back door is in UNLOCK position (permitted to be unlatched)	-
Back Door Open Handle SW	Back door opener switch signal (Outside handle switch) / ON or OFF	ON Back door opener switch is pushed OFF Back door opener switch is not pushed	-

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2. **PERFORM ACTIVE TEST**

HINT:

Using a Techstream to perform Active Tests allows relays, VSVs, actuators and other items to be operated without removing any parts. This non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

a. Connect a Techstream to the DLC3.
b. Turn the ignition switch ON.
c. Turn the tester on.
d. Enter the following menus: Body Electrical / Main Body / Active Test.
e. According to the display on tester, perform the "Active Test".

Main Body:

ACTIVE TEST DETAIL - MAIN BODY

Tester Display	Test Part	Control Range	Diagnostic Note
Door Lock	Operate door lock motor	LOCK or UNLOCK	-
D-Door Unlock	Operate driver door lock motor	UNLOCK	-
Trunk and Back-Door Open	Operate back door open	OFF/ON	-

BACK DOOR COURTESY SWITCH CIRCUIT

DESCRIPTION

The back door courtesy switch is built into the back door lock assembly. The switch turns on when the back door is opened and turns off when the door is closed. The main body ECU applies voltage to the back door lock via terminal BCTY. Back door open/close state signals are input to the main body ECU.

WIRING DIAGRAM

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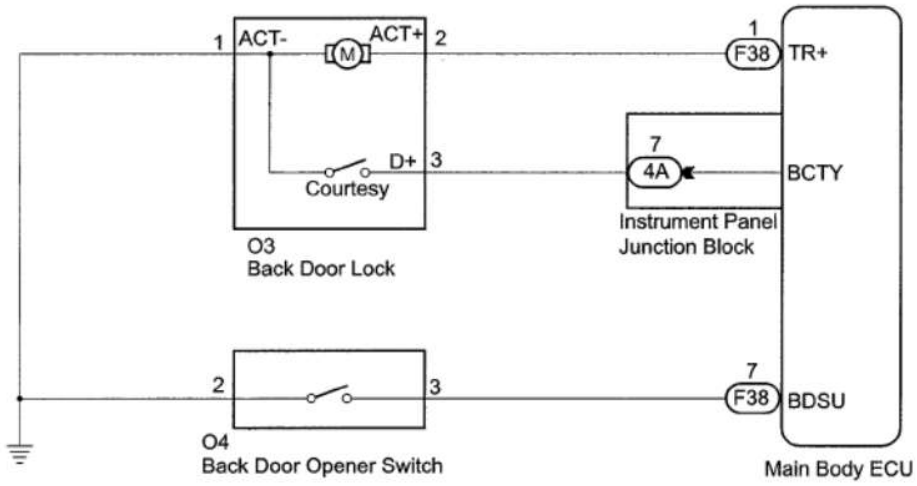


Fig. 6: Back Door Courtesy Switch - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **INSPECT BACK DOOR LOCK**
   a. Remove the back door lock (see **REMOVAL**).
   b. Check operation of the door courtesy switch.
   c. Measure the resistance according to the value(s) in the table below.

   Standard resistance (Courtesy switch)

   RESISTANCE SPECIFICATION

Tester Connection	Switch Condition	Specified Condition
1 - 3	Lock	10 kohms or higher
1 - 3	Unlock	Below 1 ohms

   d. Reinstall the back door lock (see **INSTALLATION**).

NG: REPLACE BACK DOOR LOCK (See **REMOVAL**)

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Component without harness connected:
(Back Door Lock)

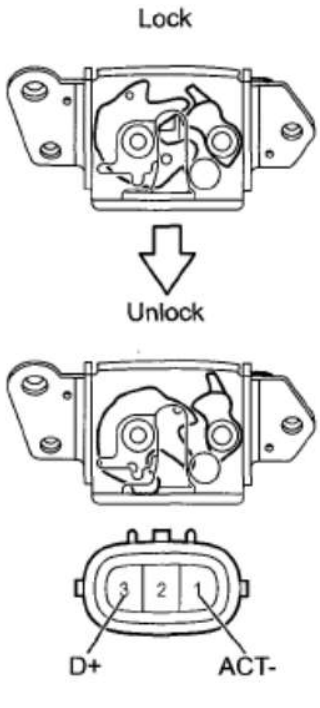


Fig. 7: Identifying Back Door Lock Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to Next Step

2. **CHECK HARNESS AND CONNECTOR (MAIN BODY ECU (INSTRUMENT PANEL J/B) - COURTESY SWITCH)**
   a. Disconnect the 4A main body ECU (instrument panel junction block) connector.
   b. Disconnect the O3 back door lock connector.
   c. Measure the resistance according to the value(s) in the table below.

Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
4A-7 (BCTY) - O3-3 (D+)	Always	Below 1 ohms
4A-7 (BCTY) - Body ground	Always	10 kohms or higher
O3-1 - Body ground	Always	Below 1 ohms

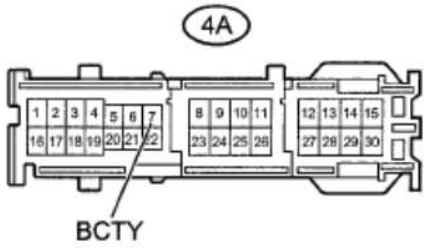
   d. Reconnect the back door lock connector.

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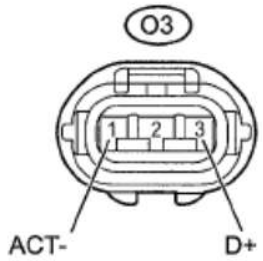
e. Reconnect the main body ECU (instrument panel junction block) connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connector:
(to Instrument Panel Junction Block)



Front view of wire harness connector:
(to Back Door Lock)



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Fig. 8: Identifying Main Body ECU And Back Door Lock Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (See **PROBLEM SYMPTOMS TABLE**)

DRIVER SIDE DOOR UNLOCK DETECTION SWITCH CIRCUIT

DESCRIPTION

The driver side door unlock detection switch is built into the front driver's door lock. The switch turns on when the driver's door is unlocked and turns off when the door is locked. The main body ECU is connected to the front driver's door lock via terminal LSWD and driver's door lock/unlock state signals are input to the main body ECU. The main body ECU applies voltage to the door unlock detection switch via terminal LSWD. When the door unlock detection switch is off (there is continuity between the switch terminals), a lock state signal is input to the main body ECU. When the switch is on (there is no continuity between the switch terminals), an unlock state signal is input.

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WIRING DIAGRAM



Fig. 9: Driver Side Door UNLOCK Detection Switch - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **READ VALUE USING TECHSTREAM (UNLOCK DETECTION SWITCH)**
   a. Connect a Techstream to the DLC3.
   b. Turn the ignition switch ON.
   c. Turn the tester on.
   d. Enter the following menus: Body Electrical / Main Body / Data List.
   e. According to the display on tester, read on the "Data List".

   Main Body

   DATA LIST - MAIN BODY

Tester Display	Measurement Item/Range	Normal Condition
D-Door 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

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

NG: Go to step 2

OK : PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (See **PROBLEM SYMPTOMS TABLE**)

2. **INSPECT FRONT DOOR LOCK LH (UNLOCK DETECTION SWITCH)**
   a. Remove the front door lock LH (see **REMOVAL**).

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b. Measure the resistance according to the value(s) in the table below.

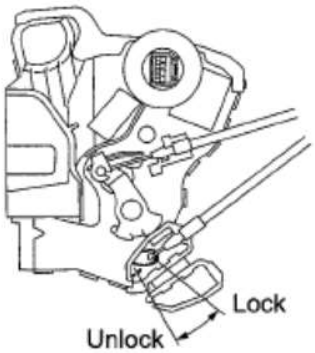
Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Switch Condition	Specified Condition
8 (LSSR) - 7 (E)	Lock	10 kohms or higher
	Unlock	Below 1 ohms

c. Reinstall the front door lock LH (see **INSTALLATION**).

NG: REPLACE FRONT DOOR LOCK LH (See **REMOVAL**)



Component without harness connected:
(Front Door Lock LH)



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Fig. 10: Identifying Front Door Lock LH Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to Next Step

3. **CHECK HARNESS AND CONNECTOR (FRONT DOOR LOCK LH - MAIN BODY ECU AND BODY GROUND)**
   a. Disconnect the J4 front door lock LH connector.
   b. Disconnect the F38 main body ECU connector.
   c. Measure the resistance according to the value(s) in the table below.

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Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
J4-8 (LSSR) - F38-21 (LSWD)	Always	Below 1 ohms
J4-8 (LSSR) - Body ground	Always	10 kohms or higher
J4-7 (E) - Body ground	Always	Below 1 ohms

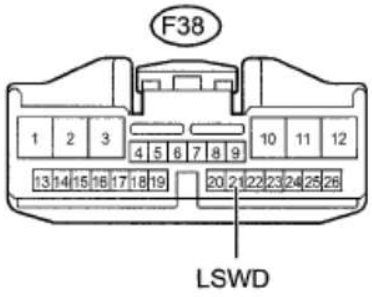
d. Reconnect the front door lock LH connector.
e. Reconnect the main body ECU connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connector:
(to Front Door Lock)



Front view of wire harness connector:
(to Main Body ECU)



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Fig. 11: Identifying Main Body ECU And Front Door Lock LH Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE MAIN BODY ECU

FRONT PASSENGER SIDE DOOR UNLOCK DETECTION SWITCH CIRCUIT

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DESCRIPTION

The front passenger side door unlock detection switch is built into the front passenger door lock. The switch turns on when the front passenger door is unlocked and turns off when the door is locked. The main body ECU is connected to the front passenger door lock via terminal LSWP and front passenger door lock/unlock state signals are input to the main body ECU. The main body ECU applies voltage to the door unlock detection switch via terminal LSWP. When the door unlock detection switch is off (there is continuity between the switch terminals), a lock state signal is input to the main body ECU. When the switch is on (there is no continuity between the switch terminals), an unlock state signal is input.

WIRING DIAGRAM

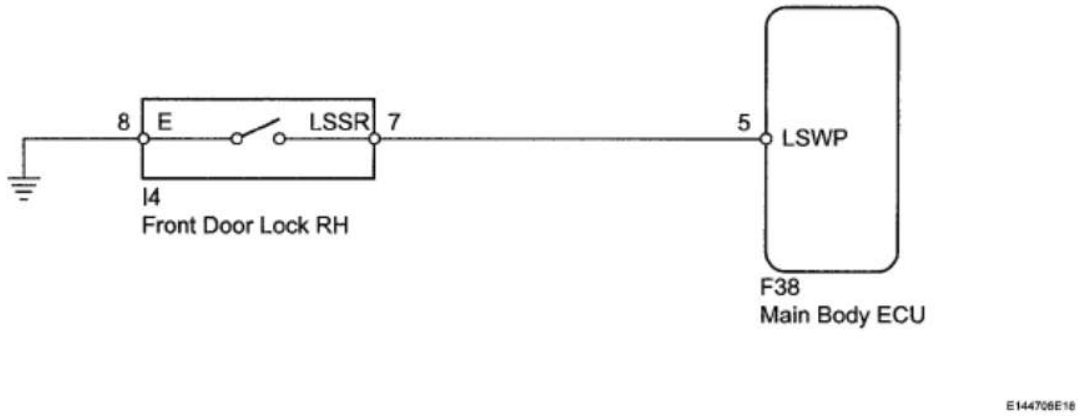


Fig. 12: Front Passenger Side Door UNLOCK Detection Switch - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **READ VALUE USING TECHSTREAM (UNLOCK DETECTION SWITCH)**
   a. Connect a Techstream to the DLC3.
   b. Turn the ignition switch ON.
   c. Turn the tester on.
   d. Enter the following menus: Body Electrical / Main Body / Data List.
   e. According to the display on tester, read on the "Data List".

Main Body

DATA LIST - MAIN BODY

Tester Display	Measurement Item/Range	Normal Condition
P-Door Lock Pos SW	Front passenger side door unlock detection switch signal / ON or OFF	ON. Front passenger side door is unlocked OFF Front passenger side door is locked

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

NG: Go to step 2

OK : PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (See **PROBLEM SYMPTOMS TABLE**)

2. **INSPECT FRONT DOOR LOCK RH (UNLOCK DETECTION SWITCH)**
   a. Remove the front door lock RH (see **REMOVAL**).
   b. Measure the resistance according to the value(s) in the table below.

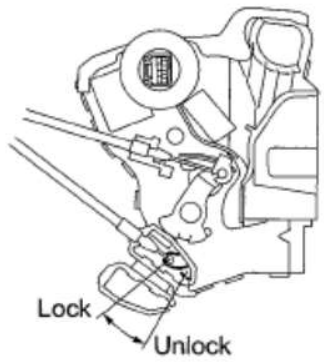
Standard resistance

RESISTANCE SPECIFICATION

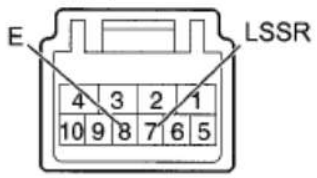
Tester Connection	Switch Condition	Specified Condition
7 (LSSR) - 8 (E)	LOCK	10 kohms or higher
	UNLOCK	Below 1 ohms

   c. Reinstall the front door lock RH (see **INSTALLATION**).

NG: REPLACE FRONT DOOR LOCK RH (See **REMOVAL**)



Component without harness connected:
(Front Door Lock RH)



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Fig. 13: Identifying Front Door Lock RH Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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OK: Go to Next Step

3. **CHECK HARNESS AND CONNECTOR (FRONT DOOR LOCK RH - MAIN BODY ECU AND BODY GROUND)**
   a. Disconnect the I4 front door lock RH connector.
   b. Disconnect the F38 main body ECU connector.
   c. Measure the resistance according to the value(s) in the table below.

Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
I4-7 (LSSR) - F38-5 (LSWP)	Always	Below 1 ohms
I4-7 (LSSR) - Body ground	Always	10 kohms or higher
I4-8 (E) - Body ground	Always	Below 1 ohms

   d. Reconnect the front door lock RH connector.
   e. Reconnect the main body ECU connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

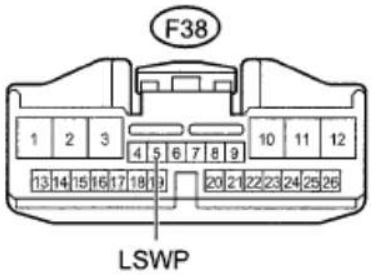
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Front view of wire harness connector:
(to Front Door Lock)



Front view of wire harness connector:
(to Main Body ECU)



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Fig. 14: Identifying Main Body ECU And Front Door Lock RH Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE MAIN BODY ECU

DRIVER SIDE DOOR LOCK MOTOR CIRCUIT

DESCRIPTION

The driver side door lock motor is built into the front driver's door lock. The main body ECU controls the driver's door lock to lock/unlock the driver's door. This main body ECU applies current from terminal ACT+ to terminal ACTD to operate the motor to lock the door. It reverses the direction of the current flow to operate the motor to unlock the door.

WIRING DIAGRAM

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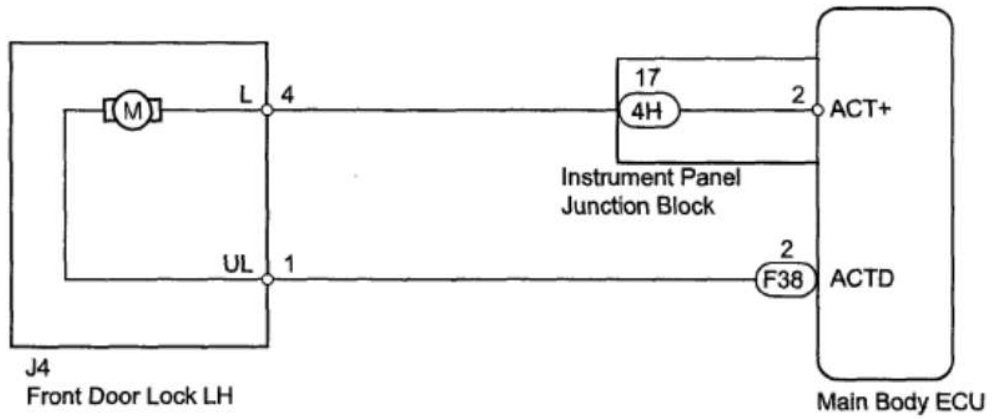


Fig. 15: Driver Side Door Lock Motor - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **INSPECT FRONT DOOR LOCK LH**
   a. Remove the front door lock LH (see **REMOVAL**).
   b. Apply battery voltage and check operation of the door lock motor.

      OK

      MEASUREMENT CONDITION AND SPECIFIED CONDITION

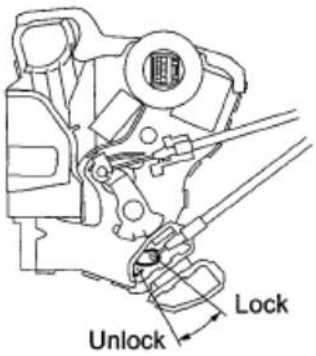
Measurement Condition	Specified Condition
Battery positive (+) --> Terminal 4 Battery negative (-) --> Terminal 1	Lock
Battery positive (+) --> Terminal 1 Battery negative (-) --> Terminal 4	Unlock

   c. Reinstall the front door lock LH (see **INSTALLATION**).

NG: REPLACE FRONT DOOR LOCK LH (See **REMOVAL**)

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Component without harness connected:
(Front Door Lock LH)

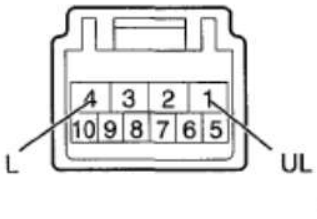


Fig. 16: Identifying Front Door Lock LH Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to Next Step

2. **CHECK HARNESS AND CONNECTOR (FRONT DOOR LOCK LH - MAIN BODY ECU)**
   a. Disconnect the J4 front door lock LH connector.
   b. Disconnect the 4H and F38 main body ECU (instrument panel junction block) connectors.

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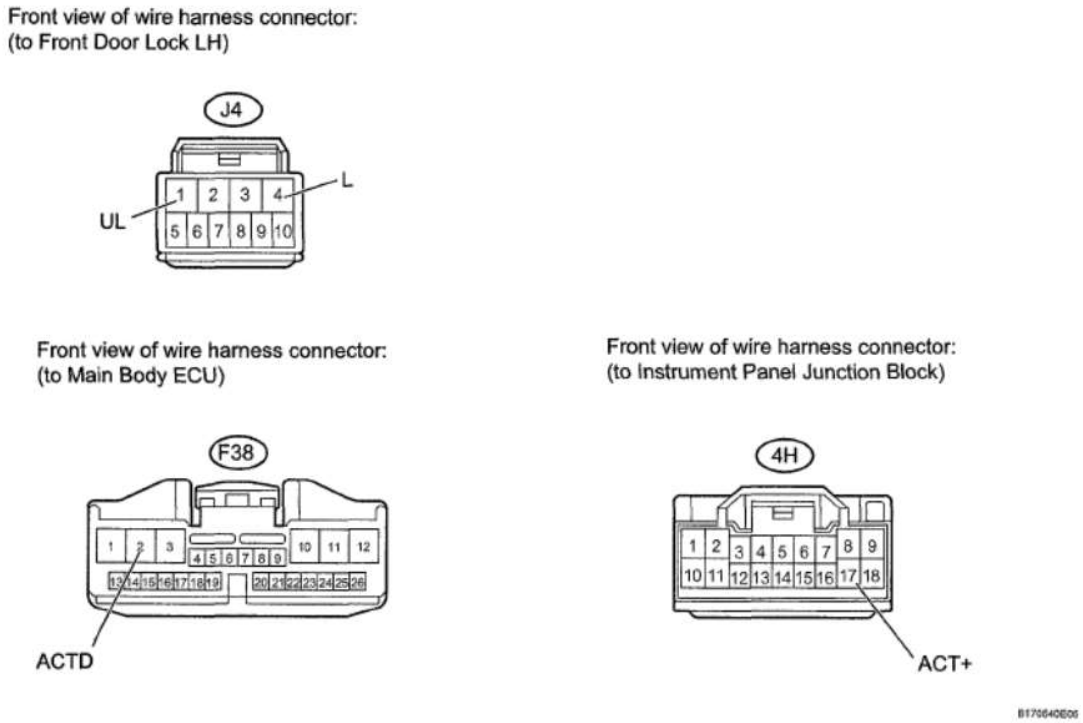


Fig. 17: Identifying Main Body ECU And Front Door Lock LH Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Measure the resistance according to the value(s) in the table below.

Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
J4-4 (L) - 4H-17 (ACT+)	Always	Below 1 ohms
J4-1 (UL) - F38-2 (ACTD)		
4H-17 (ACT+) - Body ground	Always	10 kohms or higher
F38-2 (ACTD) - Body ground		

d. Reconnect the front door lock LH connector.
e. Reconnect the main body ECU (instrument panel junction block) connectors.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

OK : REPLACE MAIN BODY ECU

FRONT PASSENGER SIDE DOOR LOCK MOTOR CIRCUIT

DESCRIPTION

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The front passenger door lock motor is built into the front passenger door lock. The main body ECU controls the front passenger door lock to lock/unlock the front passenger door. This main body ECU applies current from terminal ACT+ to terminal ACT- to operate the motor to lock the door. It reverses the direction of the current flow to operate the motor to unlock the door.

WIRING DIAGRAM

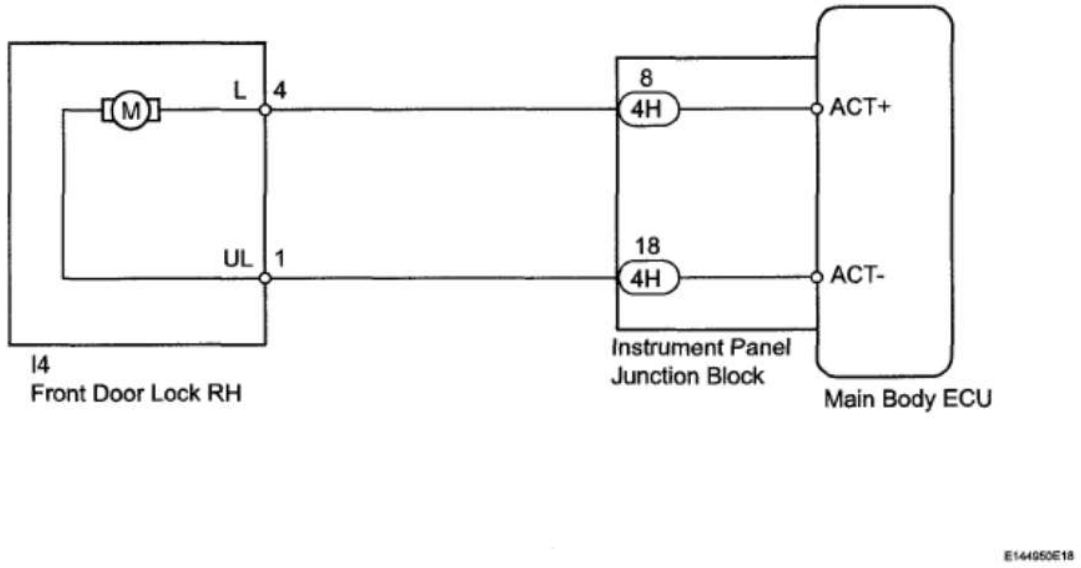


Fig. 18: Front Passenger Side Door Lock Motor - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **INSPECT FRONT DOOR LOCK RH**
   a. Remove the front door lock motor RH (see **REMOVAL**).
   b. Apply battery voltage and check operation of the door lock motor.

      OK

      MEASUREMENT CONDITION AND SPECIFIED CONDITION

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

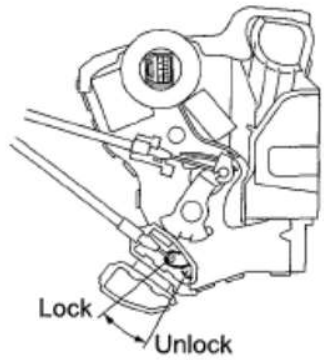
   c. Reinstall the front door lock motor RH (see **INSTALLATION**).

NG: REPLACE FRONT DOOR LOCK RH (See **REMOVAL**)

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Component without harness connected:
(Front Door Lock RH)



Fig. 19: Identifying Front Door Lock RH Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to Next Step

2. **CHECK HARNESS AND CONNECTOR (FRONT DOOR LOCK MOTOR RH - MAIN BODY ECU)**
   a. Disconnect the I4 front door lock motor RH connector.
   b. Disconnect the 4H main body ECU (instrument panel junction block) connector.
   c. Measure the resistance according to the value(s) in the table below.

Standard resistance

RESISTANCE SPECIFICATION

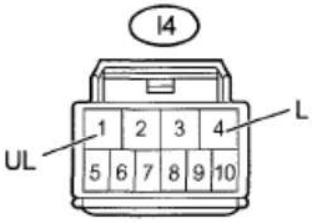
Tester Connection	Condition	Specified Condition
I4-4 (L) - 4H-8 (ACT+)	Always	Below 1 ohms
I4-1 (UL) - 4H-18 (ACT-)		
4H-8 (ACT+) - Body ground	Always	10 kohms or higher
4H-18 (ACT-) - Body ground		

   d. Disconnect the front door lock motor RH connector.
   e. Disconnect the main body ECU (instrument panel junction block) connector.

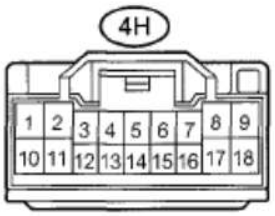
NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

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Front view of wire harness connector:
(to Front Door Lock)



Front view of wire harness connector:
(to Instrument Panel Junction Block)



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Fig. 20: Identifying Main Body ECU And Front Door Lock RH Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE MAIN BODY ECU

REAR DOOR LOCK MOTOR CIRCUIT

DESCRIPTION

The rear door lock motor is built into the rear door lock. The main body ECU controls the rear door lock to lock/unlock the rear door. This main body ECU applies current from terminal ACT+ to terminal ACT- to operate the motor to lock the door. It reverses the direction of the current flow to operate the motor to unlock the door.

WIRING DIAGRAM

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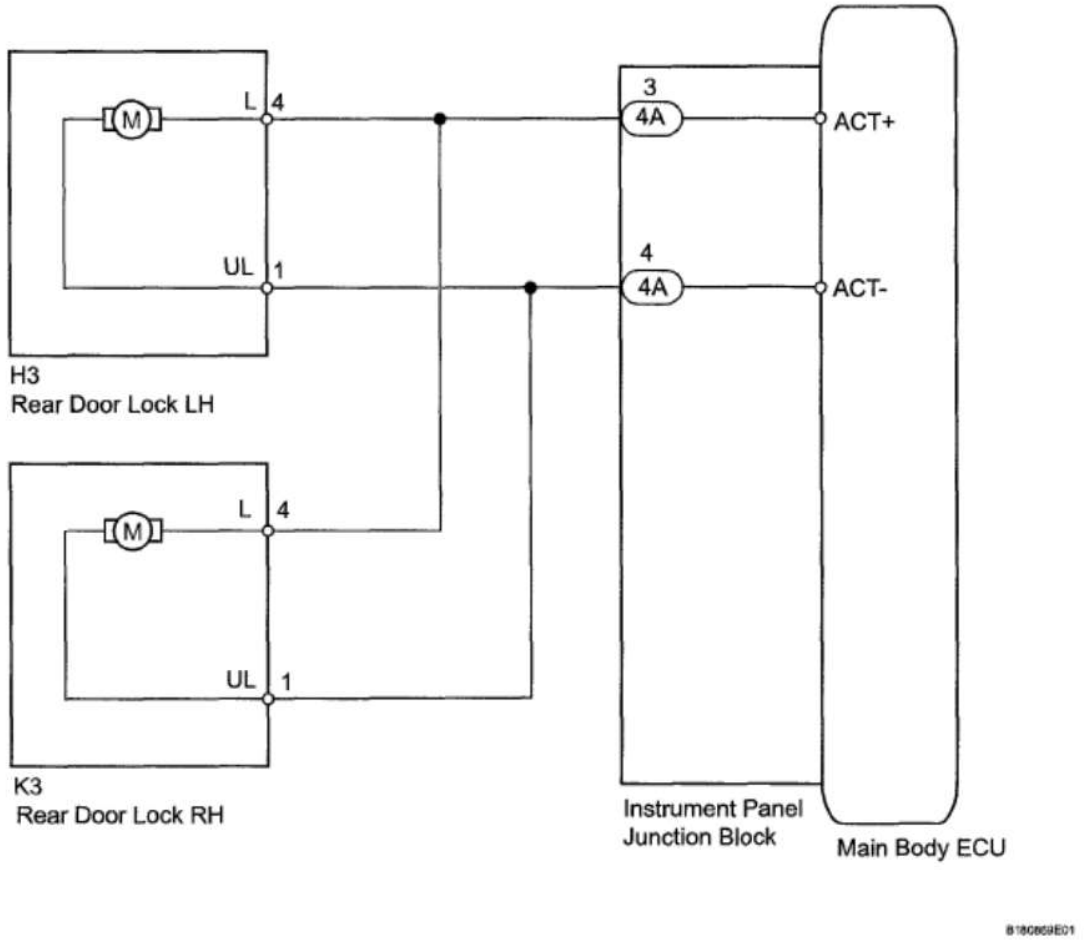


Fig. 21: Rear Door Lock Motor - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **INSPECT REAR DOOR LOCK**
   a. Remove the rear door lock (see **REMOVAL**).
   b. Apply battery voltage and check operation of the door lock motor.

   OK

   MEASUREMENT CONDITION AND SPECIFIED CONDITION

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

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c. Reinstall the rear door lock (see **INSTALLATION**).

NG: REPLACE REAR DOOR LOCK (See **REMOVAL**)

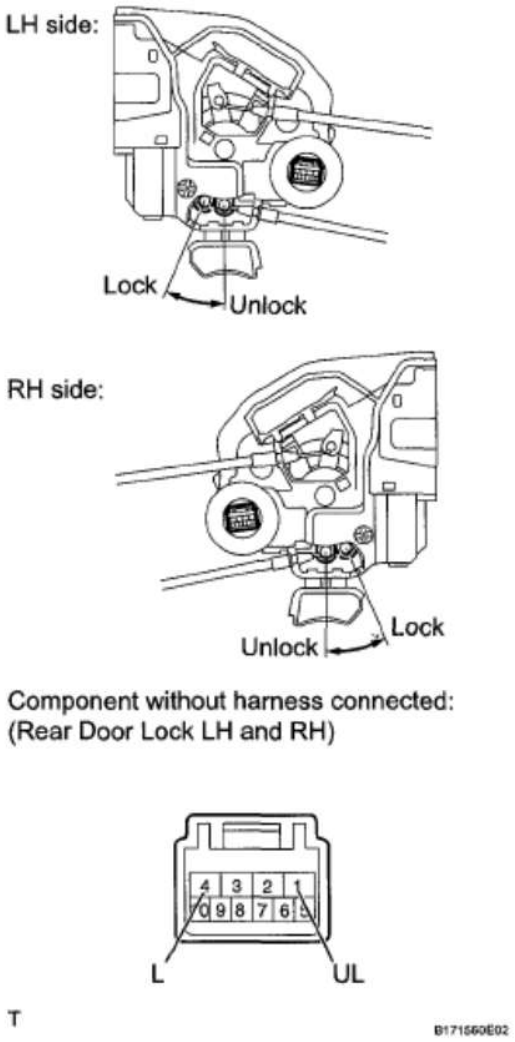


Fig. 22: Inspecting Rear Door Lock
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to Next Step

2. **CHECK HARNESS AND CONNECTOR (REAR DOOR LOCK MOTOR - MAIN BODY ECU)**
   a. Disconnect the H3 (LH side) or K3 (RH side) rear door lock connector.
   b. Disconnect the 4A main body ECU (instrument panel junction block) connector.
   c. Measure the resistance according to the value(s) in the table below.

Standard resistance (LH side)

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RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
H3-4(L) - 4A-3 (ACT+)	Always	Below 1 ohms
H3-1 (UL) - 4A-4 (ACT-)		
4A-3 (ACT+) - Body ground	Always	10 kohms or higher
4A-4 (ACT-) - Body ground		

Standard resistance (RH side)

RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
K3-4 (L) - 4A-3 (ACT+)	Always	Below 1 ohms
K3-1 (UL) - 4H-4 (ACT-)		
4H-3 (ACT+) - Body ground	Always	10 kohms or higher
4H-4 (ACT-) - Body ground		

d. Reconnect the rear door lock connector.
e. Reconnect the main body ECU (instrument panel junction block) connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

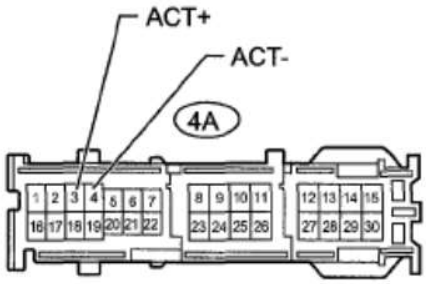
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Front view of wire harness connector:
(to Rear Door Lock)



Front view of wire harness connector:
(to Instrument Panel Junction Block)



*1: LH Side *2: RH Side

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Fig. 23: Identifying Rear Door Lock Motor And Main Body ECU Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE MAIN BODY ECU

BACK DOOR LOCK MOTOR CIRCUIT

DESCRIPTION

The back door lock motor is built into the back door lock assembly. The main body ECU controls the back door lock to lock/unlock the back door lock assembly. This main body ECU applies current from terminal ACT+ to terminal ACT- to operate the motor to lock the door. It reverses the direction of the current flow to operate the motor to unlock the door.

WIRING DIAGRAM

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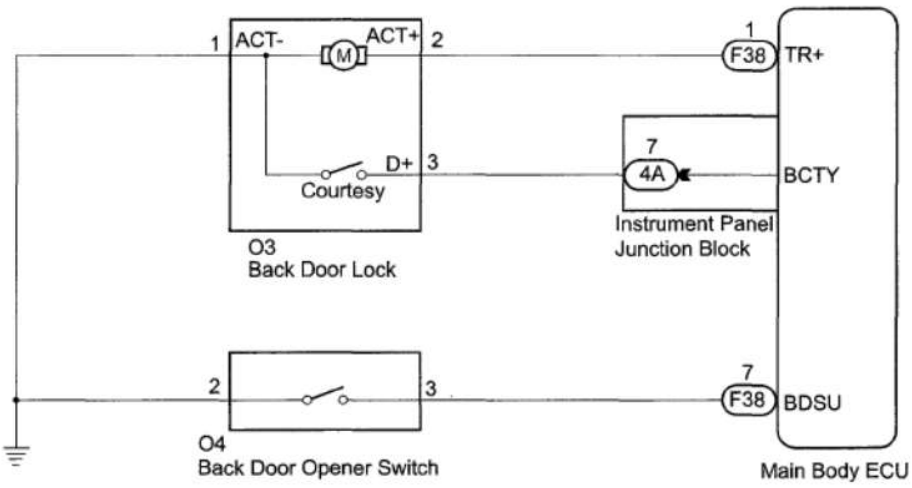


Fig. 24: Back Door Lock Motor - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **PERFORM ACTIVE TEST USING TECHSTREAM (BACK DOOR OPEN)**
   a. Select the Active Test and use a Techstream to generate a command.
   b. Check that the back door lock operation is normal.

   Main Body:

   ACTIVE TEST DETAIL - MAIN BODY

Tester Display	Test Part	Control Range
Trunk and Back-Door Open	Operate back door open	OFF or ON

   OK: Back door lock is opened.

   NG: Go to step 2

   OK : REPLACE MAIN BODY ECU

2. **INSPECT BACK DOOR LOCK**
   a. Remove the back door lock (see **REMOVAL**).
   b. Apply battery voltage and check operation of the door lock motor.

   OK

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MEASUREMENT CONDITION AND SPECIFIED CONDITION

Measurement Condition	Specified Condition
Battery positive (+) --> 1 (ACT-) Battery negative (-) --> 2 (ACT+)	Unlock

c. Reinstall the back door lock (see **INSTALLATION**).

NG: REPLACE BACK DOOR LOCK (See **REMOVAL**)

Component without harness connected:
(Back Door Lock)

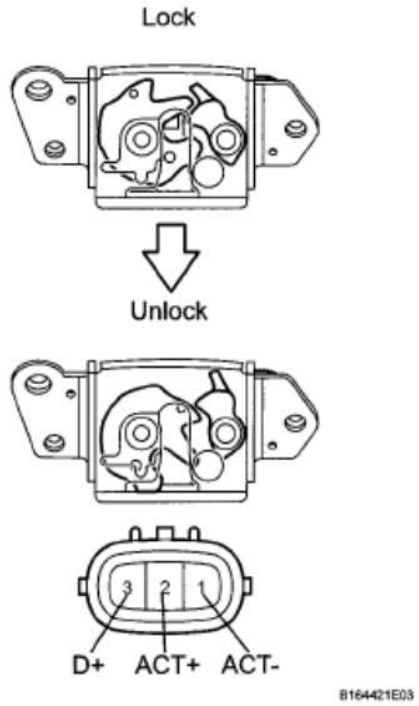


Fig. 25: Identifying Back Door Lock Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to Next Step

3. **CHECK HARNESS AND CONNECTOR (BACK DOOR LOCK MOTOR - MAIN BODY ECU AND BODY GROUND)**
   a. Disconnect the O3 back door lock connector.
   b. Disconnect the F38 main body ECU connector.
   c. Measure the resistance according to the value(s) in the table below.

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Standard resistance

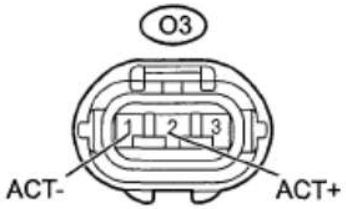
RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
O3-2 (ACT+) - F38-1 (TR+)	Always	Below 1 ohms
O3-1 (ACT-) - Body ground		
O3-2 (ACT+) - Body ground	Always	10 kohms or higher

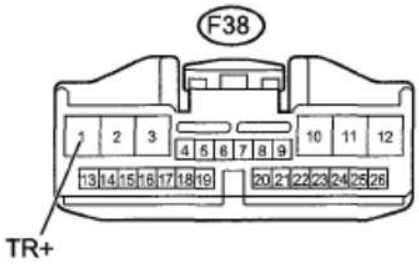
d. Reconnect the back door lock connector.
e. Reconnect the main body ECU connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connector:
(to Back Door Lock)



Front view of wire harness connector:
(to Main Body ECU)



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Fig. 26: Identifying Main Body ECU And Back Door Lock Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE MAIN BODY ECU

BACK DOOR OPENER SWITCH CIRCUIT

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DESCRIPTION

The main body ECU detects the condition of the back door opener switch.

WIRING DIAGRAM

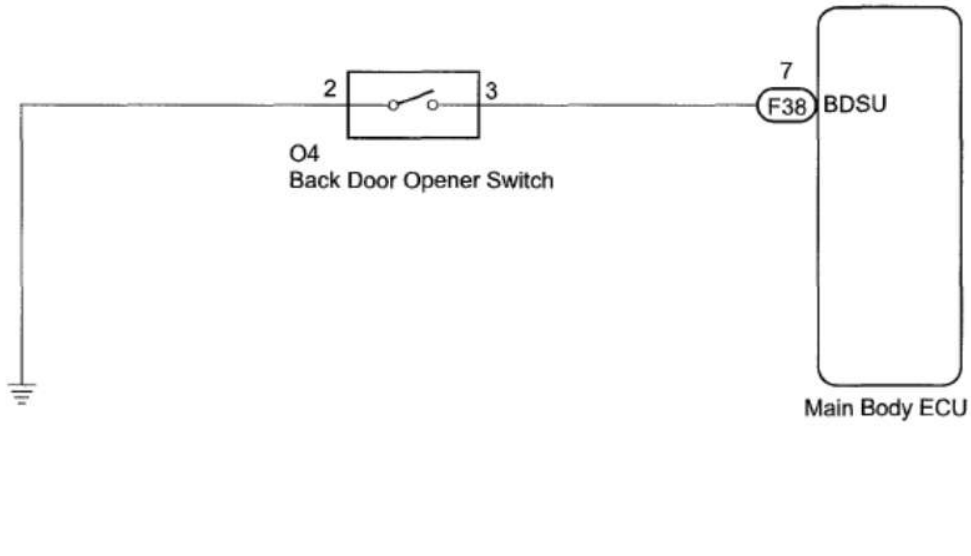


Fig. 27: Back Door Opener Switch - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **READ VALUE USING TECHSTREAM (BACK DOOR OPENER SWITCH)**
   a. Connect a Techstream to the DLC3.
   b. Turn the ignition switch ON.
   c. Turn the tester on.
   d. Enter the following menus: Body Electrical / Main Body / Data List.
   e. According to the display on tester, read on the "Data List".

   Main Body:

   DATA LIST - MAIN BODY

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Back Door Open Handle SW	Back door opener switch signal (outside handle switch) / ON or OFF	ON Back door opener switch is pushed OFF Back door opener switch is not pushed	-

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

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NG: Go to step 2

OK : PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (See **PROBLEM SYMPTOMS TABLE**)

2. **INSPECT BACK DOOR OPENER SWITCH**
   a. Remove the back door opener switch (See **REMOVAL**).
   b. Measure the resistance according to the value(s) in the table below.

Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Switch Position	Specified Condition
2 - 3	Back door opener switch free (OFF)	10 kohms or higher
2 - 3	Back door opener switch pushed (ON)	Below 1 ohms

   c. Reinstall the back door opener switch (See **INSTALLATION**).

NG: REPLACE BACK DOOR OPENER SWITCH (See **REMOVAL**)

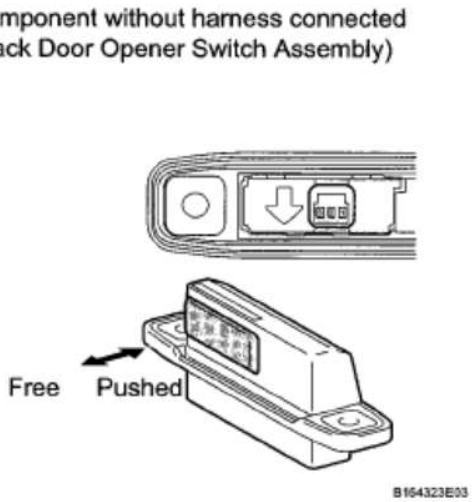


Fig. 28: Inspecting Back Door Opener Switch
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to Next Step

3. **CHECK HARNESS AND CONNECTOR (BACK DOOR OPENER SWITCH - MAIN BODY ECU)**
   a. Disconnect the F38 main body ECU connector.
   b. Disconnect the O4 back door opener connector.
   c. Measure the resistance according to the value(s) in the table below.

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Standard resistance

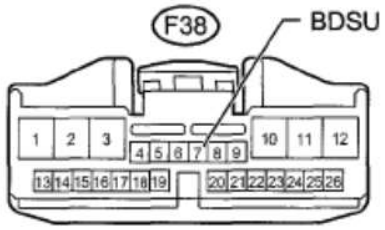
RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
F38-7 (BDSU) - O4-3	Always	Below 1 ohms
F38-7 (BDSU) - Body ground	Always	10 kohms or higher

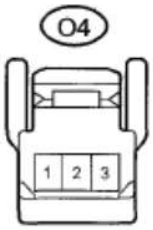
d. Reconnect the main body ECU connector.
e. Reconnect the back door opener connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connector:
(to Main Body ECU)



Front view of wire harness connector:
(to Back Door Opener Switch)



H B164319E04

Fig. 29: Identifying Back Door Opener Switch And Main Body ECU Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to Next Step

4. **CHECK HARNESS AND CONNECTOR (BACK DOOR OPENER SWITCH - BODY GROUND)**
   a. Measure the resistance according to the value(s) in the table below.

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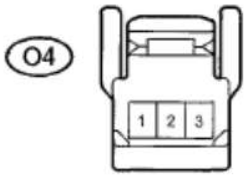
Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
O4-2 - Body ground	Always	Below 1 ohms

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connector:
(to Back Door Opener Switch)



H B164322E04

Fig. 30: Identifying Back Door Opener Switch Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE MAIN BODY ECU

DRIVER SIDE DOOR KEY LOCK AND UNLOCK SWITCH CIRCUIT

DESCRIPTION

The driver's door key lock and unlock switch is built into the driver's door lock. When the driver's door key cylinder is turned to lock all the doors using the key, there is continuity between terminals L and E on the key lock and unlock switch. When the cylinder is turned to unlock the doors, there is continuity between terminals UL and E. Terminals L2 and UL3 on the main body ECU are connected to the door lock LH, and door lock/unlock request signals (by key) are input to the main body ECU. The main body ECU constantly applies voltage to terminal L on the driver's door lock LH via terminal L2. When the driver's door key cylinder is turned to lock all the doors using the key, current flows from terminal L2 to terminal L. The main body ECU also applies constant voltage to terminal UL of the door lock LH via terminal UL3. When the door key cylinder is turned to unlock the doors using the key, current flows from terminal UL3 to terminal UL.

WIRING DIAGRAM

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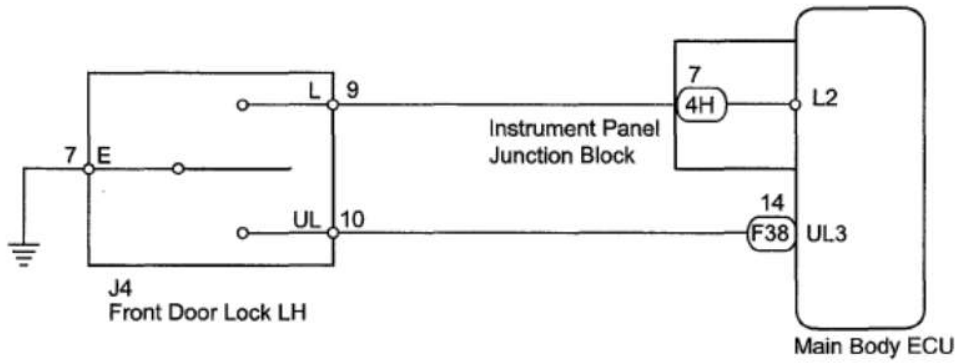


Fig. 31: Driver Side Door Key Lock And Unlock Switch - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **READ VALUE USING TECHSTREAM**
   a. Connect a Techstream to the DLC3.
   b. Turn the ignition switch ON.
   c. Turn the tester on.
   d. Enter the following menus: Body Electrical / Main Body / Data List.
   e. According to the display on tester, read on the "Data List".

Main Body

DATA LIST - MAIN BODY

Tester Display	Measurement Item/Range	Normal Condition
Door Key SW-Lock	Driver door lock/unlock switch lock signal (Key-linked lock switch) / ON or OFF	ON Driver side door key cylinder is turned to lock position OFF Driver side door key cylinder is not turned
Door Key SW-Unlock	Driver door lock/unlock switch unlock signal (Key-linked unlock switch) /ON or OFF	ON Driver side door key cylinder is turned to unlock position OFF Driver side door key cylinder is not turned
D Door Key	Driver door lock/unlock switch unlock signal (2	ON Driver side door key cylinder is turned to unlock

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SW-UL	step key-linked unlock switch) / ON or OFF	position OFF Driver side door key cylinder is not turned

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

NG: Go to step 2

OK : PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (See **PROBLEM SYMPTOMS TABLE**)

2. **INSPECT FRONT DOOR LOCK LH (DOOR KEY LOCK AND UNLOCK SWITCH)**
   a. Remove the front door lock LH (see **REMOVAL**).
   b. Measure the resistance according to the value(s) in the table below.

Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Switch Condition	Specified Condition
7 (E) - 9 (L)	ON (Door lock set to LOCK)	Below 1 ohms
7 (E) - 9 (L) 7 (E) - 10 (UL)	OFF (Free)	10 kohms or higher
7 (E) - 10 (UL)	ON (Door lock set to UNLOCK)	Below 1 ohms

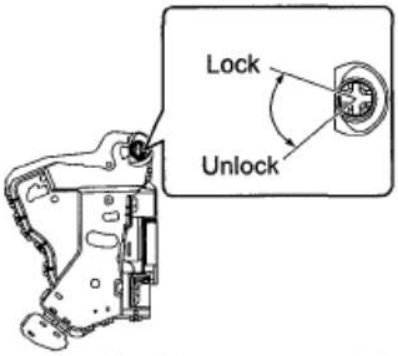
   c. Reinstall the front door lock LH (see **INSTALLATION**).

NG: REPLACE FRONT DOOR LOCK LH (See **REMOVAL**)

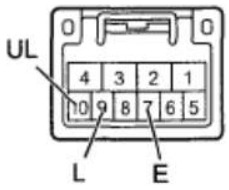
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Component without harness connected:
(Front Door Lock LH)



E146713E02

Fig. 32: Inspecting Front Door Lock LH (Door Key Lock And Unlock Switch)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to Next Step

3. **CHECK HARNESS AND CONNECTOR (FRONT DOOR LOCK MOTOR LH - MAIN BODY ECU AND BODY GROUND)**
   a. Disconnect the J4 front door lock LH connector.
   b. Disconnect the F38 and 4H main body ECU (instrument panel junction block) connectors.

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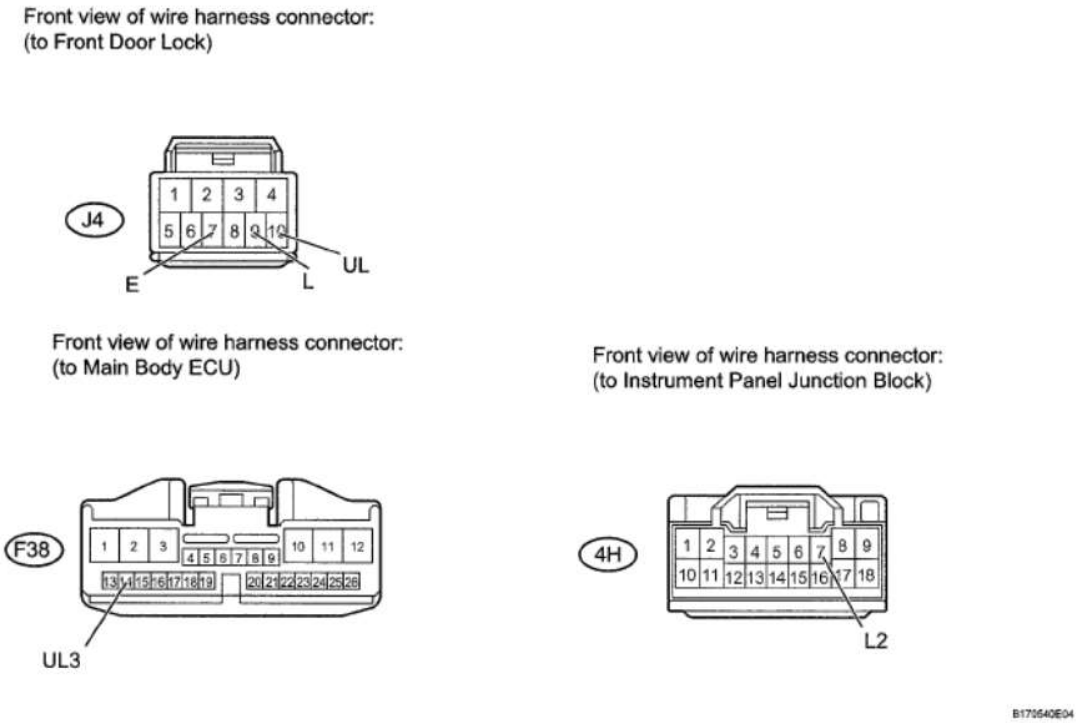


Fig. 33: Identifying Main Body ECU And Front Door Lock Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Measure the resistance according to the value(s) in the table below.

Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
J4-9 (L) - 4H-7 (L2)	Always	Below 1 ohms
J4-10 (UL) - F38-14 (UL3)		
J4-7 (E) - Body ground		
J4-9 (L) - Body ground	Always	10 kohms or higher
J4-10 (UL) - Body ground		

d. Reconnect the front door lock LH connector.
e. Reconnect the main body ECU (instrument panel junction block) connectors.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

OK : REPLACE MAIN BODY ECU

DOOR CONTROL SWITCH CIRCUIT

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DESCRIPTION

for Driver Side:

When the lock side of the door control switch is pressed, continuity is established between terminal 2 and terminal 1 on the switch. When the unlock side of the switch is pressed, continuity is established between terminal 9 and terminal 1. Terminals L1 and UL1 on the main body ECU are connected to the door control switch, and door lock/unlock request signals (by door control switch operation) are input to the main body ECU. The main body ECU constantly applies voltage to terminal 2 of the door control switch via terminal L1. When the door control switch is operated to lock all doors, current flows from terminal L1 to terminal 2. The main body ECU determines that this is a door lock request signal input. The main body ECU also applies constant voltage to terminal 9 on the door control switch via terminal UL1. When the door control switch is operated to unlock the doors, current flows from terminal UL1 to terminal 9. The main body ECU determines that this is a door unlock request signal input.

for Passenger Side:

When the lock side of the door control switch is pressed, continuity is established between terminal 4 and terminal 3 on the switch. When the unlock side of the switch is pressed, continuity is established between terminal 2 and terminal 3. Terminals L1 and UL1 on the main body ECU are connected to the door control switch, and door lock/unlock request signals (by door control switch operation) are input to the main body ECU. The main body ECU constantly applies voltage to terminal 4 on the door control switch via terminal L1. When the door control switch is operated to lock all doors, current flows from terminal L1 to terminal 4. The main body ECU determines that this is a door lock request signal input. The main body ECU also applies constant voltage to terminal 2 on the door control switch via terminal UL1. When the door control switch is operated to unlock the doors, current flows from terminal UL1 to terminal 2. The main body ECU determines that this is a door unlock request signal input.

WIRING DIAGRAM

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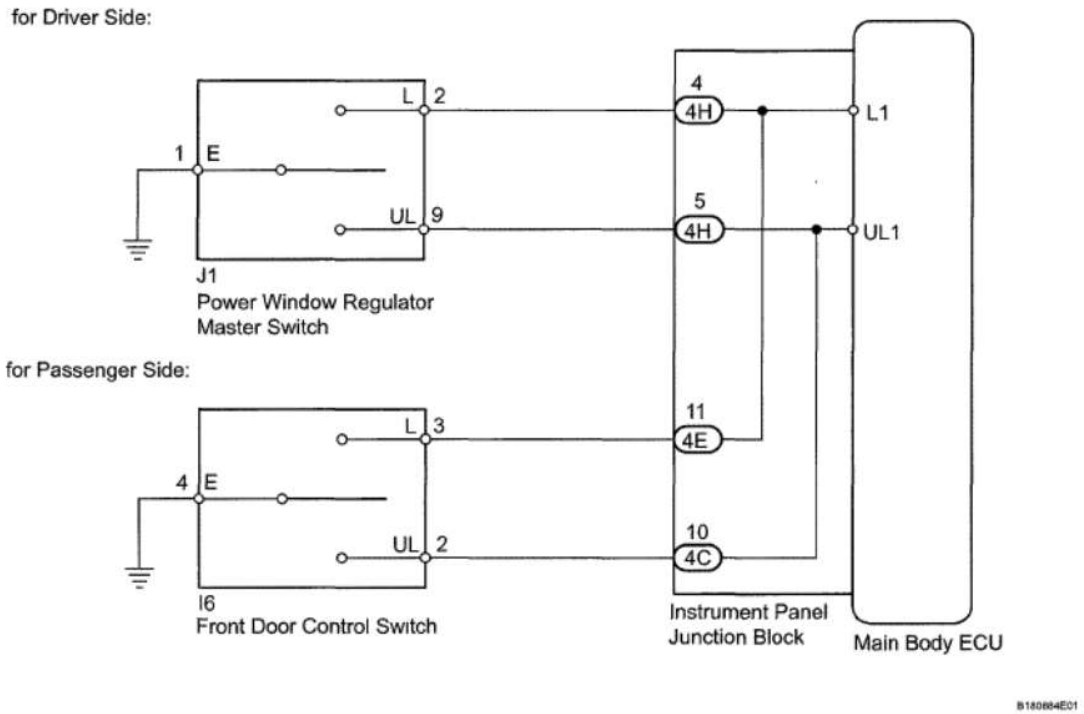


Fig. 34: Door Control Switch - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **READ VALUE USING TECHSTREAM (DOOR CONTROL SWITCH)**
   a. Connect a Techstream to the DLC3.
   b. Turn the ignition switch ON.
   c. Turn the tester on.
   d. Enter the following menus: Body Electrical / Main Body / Data List.
   e. According to the display on tester, read on the "Data List"

Main Body

DATA LIST - MAIN BODY

Tester Display	Measurement Item/Range	Normal Condition
Door Lock SW-Lock	Door control switch lock signal / ON or OFF	ON Door control switch is pushed to lock position OFF Door control switch is not pushed
Door Lock SW-Unlock	Door control switch unlock signal / ON or OFF	ON. Door control switch is pushed to unlock position OFF Door control switch is not pushed

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

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Result

RESULT REFERENCE

Result	Proceed to
OK	A
NG (for Driver side)	B
NG (for Passenger side)	C

B: Go to step 2

C: Go to step 4

A : PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (See **PROBLEM SYMPTOMS TABLE**)

2. **INSPECT POWER WINDOW REGULATOR MASTER SWITCH (FOR DRIVER SIDE)**
   a. Remove the power window master switch (see **REMOVAL**).
   b. Measure the resistance according to the value(s) in the table below.

Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Switch Condition	Specified Condition
2 (L) - 1 (E)	Lock	Below 1 ohms
2 (L) - 1 (E) 9 (UL) - 1 (E)	OFF (Free)	10 kohms or higher
9 (UL) - 1 (E)	Unlock	Below 1 ohms

   c. Reinstall the power window master switch (see **INSTALLATION**).

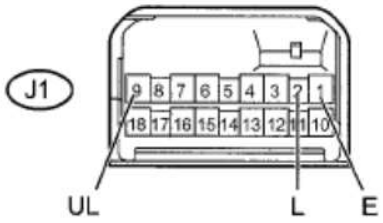
NG: REPLACE POWER WINDOW REGULATOR MASTER SWITCH (See **REMOVAL**)

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Component without harness connected:
(Power Window Master Switch)



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Fig. 35: Identifying Power Window Master Switch Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to Next Step

3. **CHECK HARNESS AND CONNECTOR (DOOR LOCK SWITCH - MAIN BODY ECU AND BODY GROUND)**
   a. Disconnect the J1 power window master switch connector.
   b. Disconnect the 4H main body ECU (instrument panel junction block) connector.
   c. Measure the resistance according to the value(s) in the table below.

   Standard resistance

   RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
J1-2 (L) - 4H-4 (L1)	Always	Below 1 ohms
J1-9 (UL) - 4H-5 (UL1)		
J1-1 - Body ground		
4H-4 (L1) - Body ground	Always	10 kohms or higher
4H-5 (UL1) - Body ground		

   d. Reconnect the power window master switch connector.
   e. Reconnect the main body ECU (instrument panel junction block) connector.

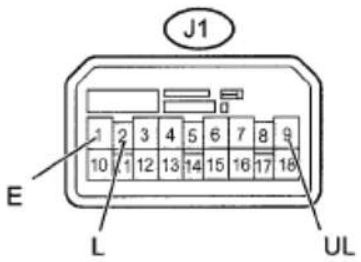
NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

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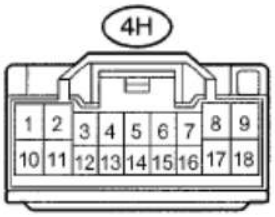
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Front view of wire harness connector:
(to Power Window Master Switch)



Front view of wire harness connector:
(to Instrument Panel Junction Block)



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Fig. 36: Identifying Main Body ECU And Power Window Master Switch Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE MAIN BODY ECU

4. **INSPECT DOOR CONTROL SWITCH (FOR PASSENGER SIDE)**
   a. Remove the door control switch (see **REMOVAL**).
   b. Measure the resistance according to the value(s) in the table below.

Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Switch Condition	Specified Condition
3 (L) - 4 (E)	Lock	Below 1 ohms
3 (L) - 4 (E) 2 (UL) - 4 (E)	OFF (Free)	10 kohms or higher
2 (UL) - 4 (E)	Unlock	Below 1 ohms

   c. Reinstall the door control switch (see **INSTALLATION**).

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NG: REPLACE DOOR CONTROL SWITCH (See **REMOVAL**)

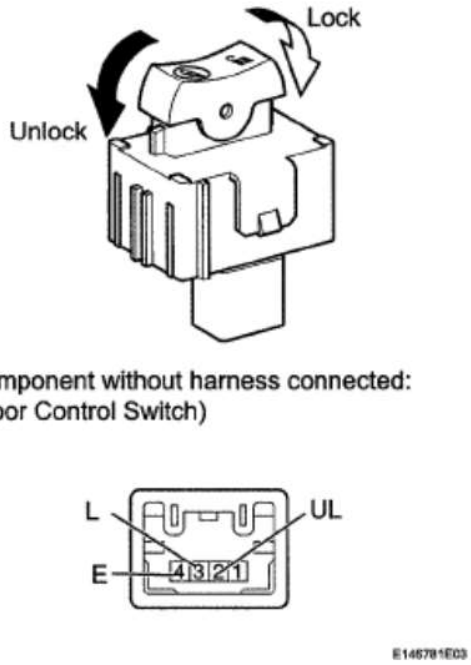


Fig. 37: Inspecting Door Control Switch (For Passenger Side)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to Next Step

5. **CHECK HARNESS AND CONNECTOR (DOOR LOCK SWITCH - MAIN BODY ECU AND BODY GROUND)**
   a. Disconnect the I6 front door lock control switch RH connector.
   b. Disconnect the 4C and 4E main body ECU (instrument panel junction block) connector.
   c. Measure the resistance according to the value(s) in the table below.

Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
I6-3 (L) - 4E-11 (L1)	Always	Below 1 ohms
I6-2 (UL) - 4C-10 (UL1)		
I6-4 (E) - Body ground		
4E-11 (L1) - Body ground	Always	10 kohms or higher
4C-10 (UL1) - Body ground		

   d. Reconnect the front door lock control switch RH connector.
   e. Reconnect the main body ECU (instrument panel junction block) connector.

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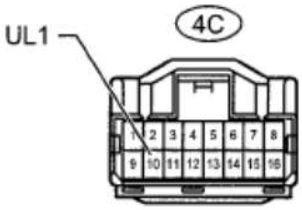
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NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connector:
(to Front Door Control Switch RH)



Front view of wire harness connector:
(to Instrument Panel Junction Block)



Front view of wire harness connector:
(to Instrument Panel Junction Block)

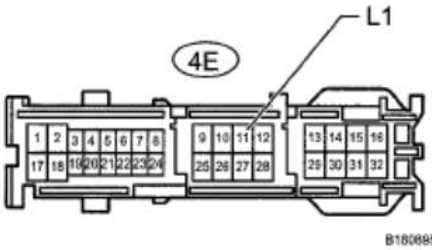


Fig. 38: Identifying Main Body ECU And Front Door Lock Control Switch Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE MAIN BODY ECU

WIRELESS DOOR LOCK CONTROL SYSTEM

PARTS LOCATION

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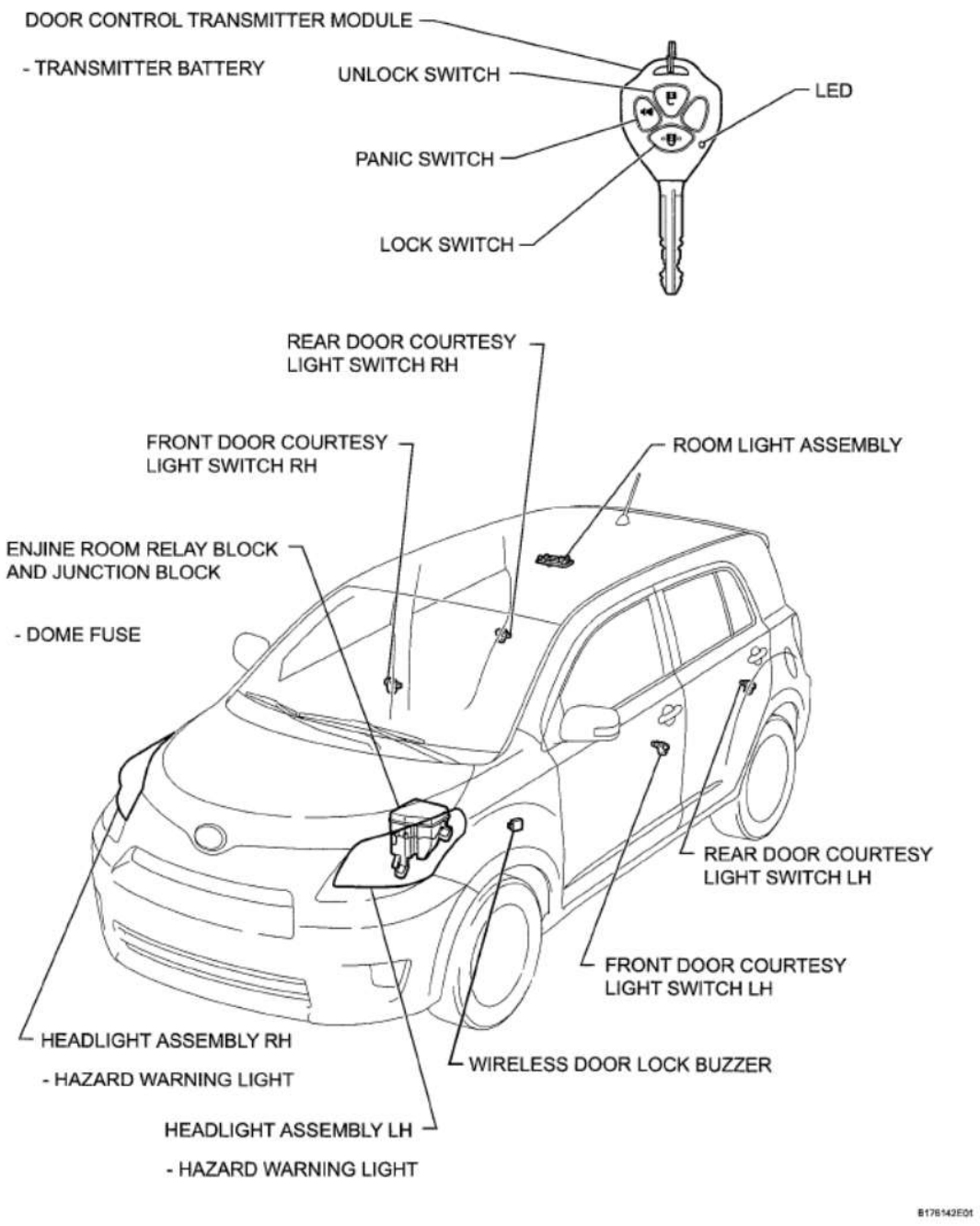


Fig. 39: Identifying Wireless Door Lock Control System Parts Location (1 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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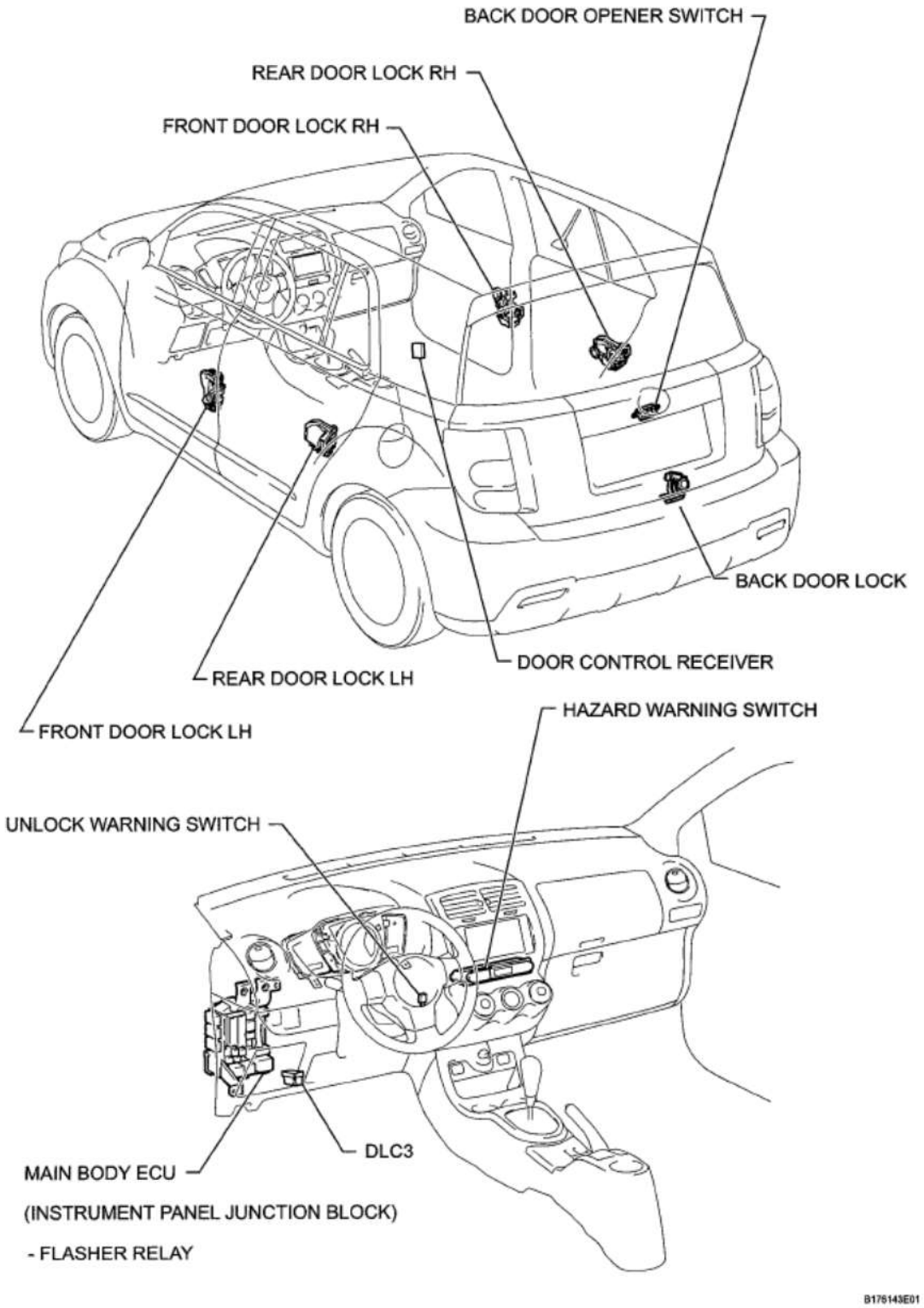


Fig. 40: Identifying Wireless Door Lock Control System Parts Location (2 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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SYSTEM DIAGRAM

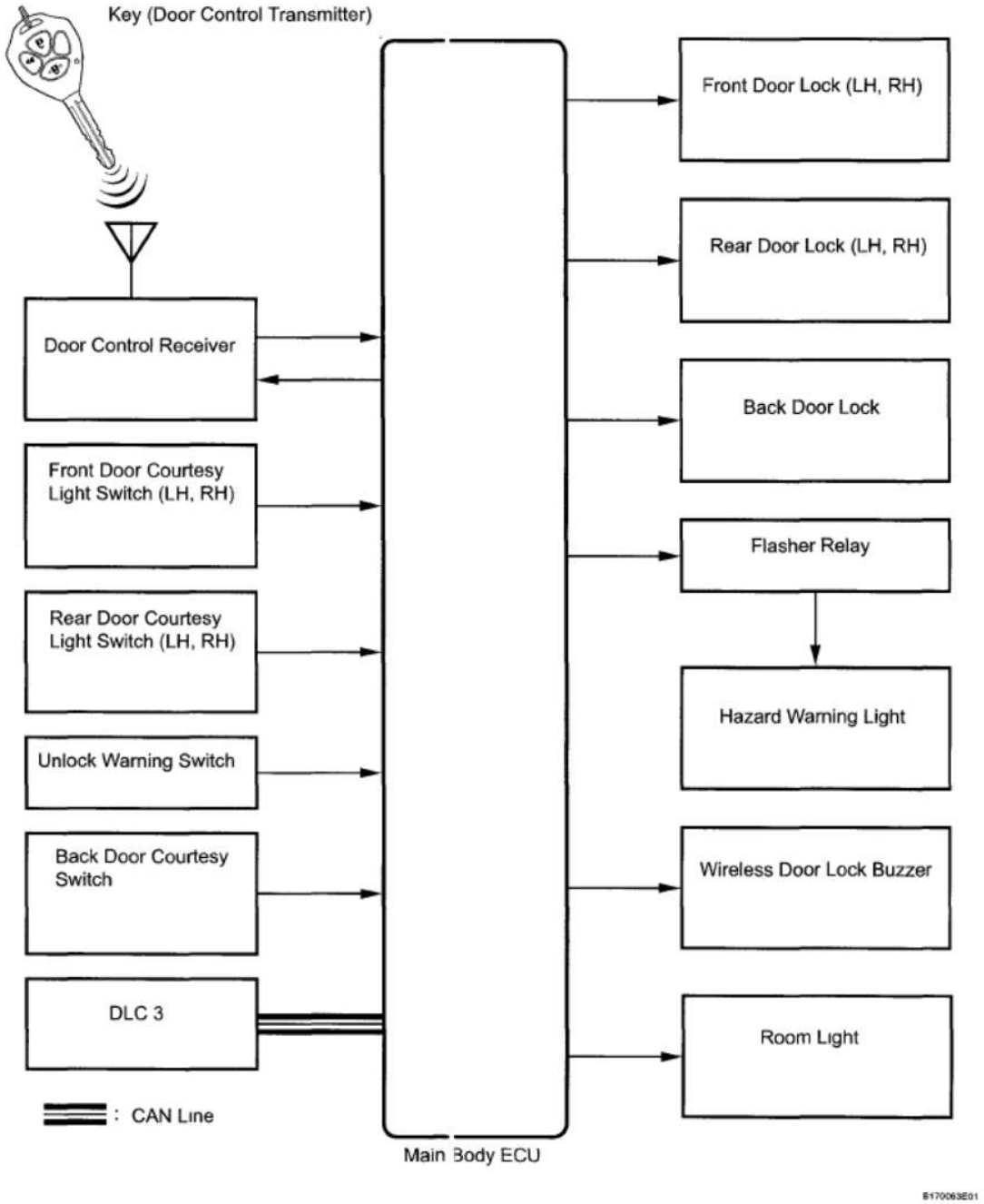


Fig. 41: Wireless Door Lock Control System Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

SYSTEM DESCRIPTION

1. WIRELESS DOOR CONTROL SYSTEM DESCRIPTION

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a. The wireless door lock control system functions to lock and unlock all the doors from a distance. The system is controlled by a hand-held transmitter which sends radio waves to the door control receiver. The main body ECU performs an ID code identification process and engages the door lock control.

2. **FUNCTION OF MAIN COMPONENTS**

FUNCTION OF MAIN COMPONENTS

Components	Functions
Door control transmitter	• Contains LOCK, UNLOCK and PANIC switches • Transmits weak radio waves (recognition codes and function codes) to the door control receiver • Illuminates indicator light (LED) during transmitter
Door control receiver	Receives weak radio waves (recognition codes and function codes) and outputs them as code data to the main body ECU
Door lock position switch	Transmits the door lock positions of each door to the main body ECU
Unlock warning switch	Detects if key is in ignition key cylinder
• Front door courtesy light switch • Rear door courtesy light switch • Back door courtesy light switch	Turns ON when door is open and turns OFF when door is closed Outputs door status (open or closed) to main body ECU
Main body ECU	Sends wireless door lock control signals in response to the code data from the door control receiver and signals from each switch

3. **SYSTEM FUNCTION**

a. The door control transmitter has LOCK and UNLOCK switches. Operating these switches activates each function. The wireless door lock control system has the following functions:

HINT:

The default settings of the following functions are ON. Part of these functions can be customized (See **CUSTOMIZE PARAMETERS**).

FUNCTION OUTLINE

Function	Outline
All door lock function	Pressing LOCK switch locks all doors
All door unlock operation (2 step unlock operation) function	Pressing UNLOCK switch twice within 3 seconds unlocks all doors after driver side door is unlocked
	• Hazard warning lights flash once when doors are locked, and flash twice when doors are unlocked to indicate that operation

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Answer-back function	has been completed • Wireless door lock buzzer sounds once when doors are locked and sounds twice when doors are unlocked to inform that operation has been completed
Automatic locking function	If no doors are opened within 30 seconds after being unlocked by wireless transmitter, all doors are locked again automatically
Door ajar warning function	If any door is open or ajar, pressing LOCK switch will cause wireless door lock buzzer to sound for about 10 seconds
Illuminated entry function	If locked doors are unlocked through wireless operation, room 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 function	Pressing PANIC switch for more than 0 8 seconds sounds vehicle horns and blinks hazard warning lights, headlights, taillights, and turn signal lights
Transmitter recognition code registration function	Enables the registration (writing and storing) of 4 types of transmitter recognition codes in the EEPROM that is contained in the door control receiver

4. **CONDITIONS THAT WIRELESS FUNCTIONS DO NOT OPERATE**
   a. Lock operation is not available when:
      - Any of the doors is open.
      - The key is inserted in the ignition key cylinder.
   b. Unlock operation is not available when:
      - The key is inserted in the ignition key cylinder.

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 (see **PROBLEM SYMPTOMS TABLE**).
- Use these procedures to troubleshoot the wireless door lock control system.
- *: Use a Techstream.

1. **VEHICLE BROUGHT TO WORKSHOP**
2. **CUSTOMER PROBLEM ANALYSIS CHECK**

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HINT:

- In troubleshooting, confirm that the problem symptoms have been accurately identified. Preconceptions should be discarded in order to make an accurate judgment. To clearly understand what the problem symptoms are, it is extremely important to ask the customer about the problem and the conditions at the time the malfunction occurred.
- Gather as much information as possible for reference. Past problems that seem unrelated may also help in some cases.
- The following 5 items are important points in the problem analysis:

CUSTOMER PROBLEM ANALYSIS POINTS

What	Vehicle model, system name
When	Date, time, occurrence frequency
Where	Road conditions
Under what conditions?	Running conditions, driving conditions, weather conditions
How did it happen?	Problem symptoms

3. **INSPECT BATTERY VOLTAGE**

Standard voltage: 11 to 14 V

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

4. **PROBLEM SYMPTOMS TABLE**

Result:

RESULT REFERENCE

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: Go to Next Step

5. **OVERALL ANALYSIS AND TROUBLESHOOTING***
   a. Operation Check (see **OPERATION CHECK**)
   b. DATA LIST / ACTIVE TEST (see **DATA LIST / ACTIVE TEST**)
   c. Terminals of ECU (see **TERMINALS OF ECU**)
6. **REPAIR OR REPLACE**
7. **CONFIRMATION TEST***

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NEXT : END

OPERATION CHECK

1. **NOTICES WHEN CHECKING**
   a. The wireless door LOCK / UNLOCK function: This wireless door lock control function operates only when the following 4 conditions are met:
      - No key is inserted into the ignition key cylinder.
      - All the doors are closed.
      - The function is not disabled by customization.
      - The power door lock system is functioning normally.

      HINT:

      - The UNLOCK function operates even when one of the doors is open.

   b. The operating range differs depending on the situation.
      - The operating range differs depending on the user, the way the transmitter is held and the location.
      - In certain areas, the operating range will be reduced due to the vehicle body shape and the influence of the surrounding environment.
      - 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.
      - 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.

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 basic functions:
      - Check that the transmitter's LED illuminates 3 times when each switch is pressed 3 times.

      HINT:

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If the LED does not illuminate when the switch has been pressed 3 times or more, the battery may be depleted.

c. Check the chattering prevention function:
   - 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.

d. Check the automatic locking function:
   - When all doors are unlocked with the UNLOCK switch and none of the doors are opened or locked within 30 seconds, check that the doors are relocked automatically.

e. Check the switch operation fail-safe function:
   - 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.

f. Check the door ajar warning function:
   - If a door is open or not completely closed, check that the doors cannot be locked by the LOCK switch and that the wireless door lock buzzer sounds for 10 seconds.

g. Check the answer-back function:
   - When the LOCK switch is pressed, confirm the simultaneous occurrence of all the hazard warning lights flashing once, the buzzer sounding once and all the doors locking.
   - When the UNLOCK switch is pressed, confirm the simultaneous occurrence of all the hazard warning lights flashing twice, the buzzer sounding twice and the driver side door unlocking.
   - When the UNLOCK switch is pressed again within 3 seconds, conform the simultaneous occurrence of all the hazard warning lights flashing twice, the buzzer sounding twice and all the doors unlocking.

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

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

j. All door unlock operation function (2 step unlock function).
   - Pressing the UNLOCK switch twice within 3 seconds unlocks all the doors after the driver side door is unlocked.

REGISTRATION

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1. **DESCRIPTION OF RECOGNITION CODE**

   HINT:

   - Recognition code registration is necessary when replacing the door control transmitter and/or the door control receiver.
   - Add mode is used to register new recognition codes while still retaining codes already registered. This mode is used when a new transmitter is added. If the number of registered codes exceeds 5, 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 exchanged for a new one.
   - Confirmation mode is used to confirm how many recognition codes have already been registered before registering any additional recognition codes.
   - Prohibition mode is used to erase all the registered codes and disables the wireless door lock function. This mode is used when the transmitter is lost.
   - All of the following registration procedures must be performed in order and in a continuous sequence.

2. **REGISTER RECOGNITION CODE (USING TECHSTREAM)**

   HINT:

   For detailed procedures, refer to the prompts on the tester screen. The number of currently registered codes can be checked out on the first screen of the WIRELESS REGIST screen.

   a. Connect a Techstream to the DLC3.
   b. Turn the ignition switch ON.
   c. Turn the Tester on.
   d. Enter the following menus: Body Electrical / Main Body / Utility / Wireless Code Registration.
   e. Press both LOCK and UNLOCK switches within 1 to 1.5 seconds.
   f. Press either switch for more than 1 second within 3 seconds.
   g. Check the response to the registration completion.

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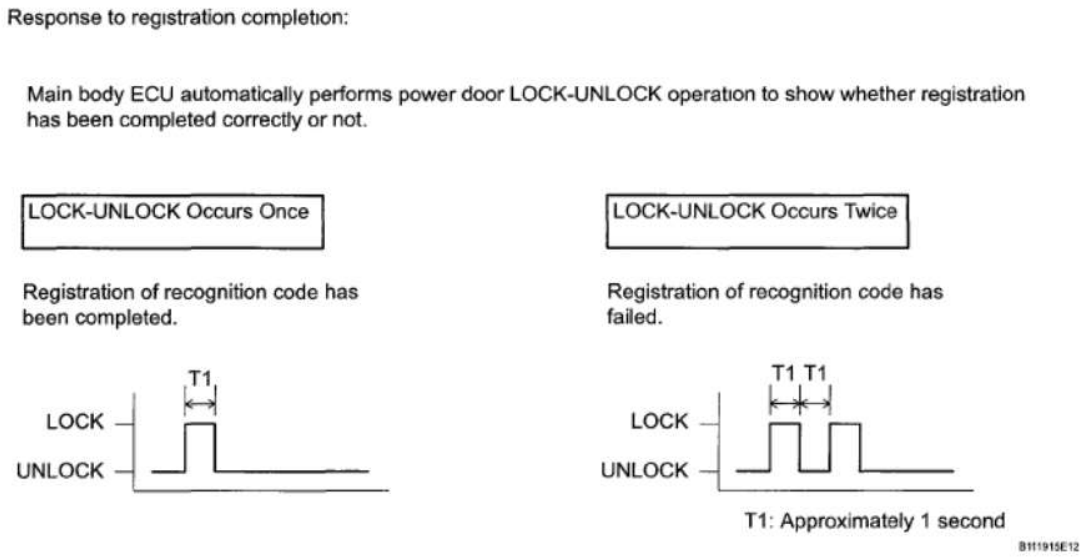


Fig. 42: Power Door LOCK-UNLOCK Operation Graph
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

HINT:

- If the LOCK-UNLOCK operation occurs twice, the registration of recognition code has failed. Perform the registration procedures again from the beginning.
- If registering another transmitter, repeat the procedures after the tester operation. All 4 recognition codes can be registered consecutively.

h. Perform either of the following to complete the registration of recognition codes:
- Use a Techstream to send a completion command.
- Disconnect the Techstream.

3. **REGISTER RECOGNITION CODE (USING SWITCH OPERATION)**

a. The following conditions should be met.
- No key in the ignition key cylinder.
- The driver side door is open (the other doors are closed).
- The driver side door is unlocked.

b. Insert and remove the key into / from the ignition key cylinder twice (Insert --> Remove --> Insert --> Remove) within 5 seconds.

HINT:

The procedure should end with the key removed.

c. Perform the following operations within 40 seconds.

1. Close and open the driver side door twice (Close --> Open --> Close --> Open).

HINT:

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The procedure should end with the door open.

2. Insert and remove the key into / from the ignition key cylinder (Insert --> Remove).

   HINT:

   The procedure should end with the key removed.

3. Close and open the driver side door twice (Close --> Open --> Close --> Open).

   HINT:

   The procedure should end with the door open.

4. Insert the key into the ignition key cylinder and close all doors.

d. Perform the following operations within 40 seconds.

1. Turn the ignition switch from ON to OFF at approximately 1 second intervals, operate the ignition switch according to the number of times shown below.

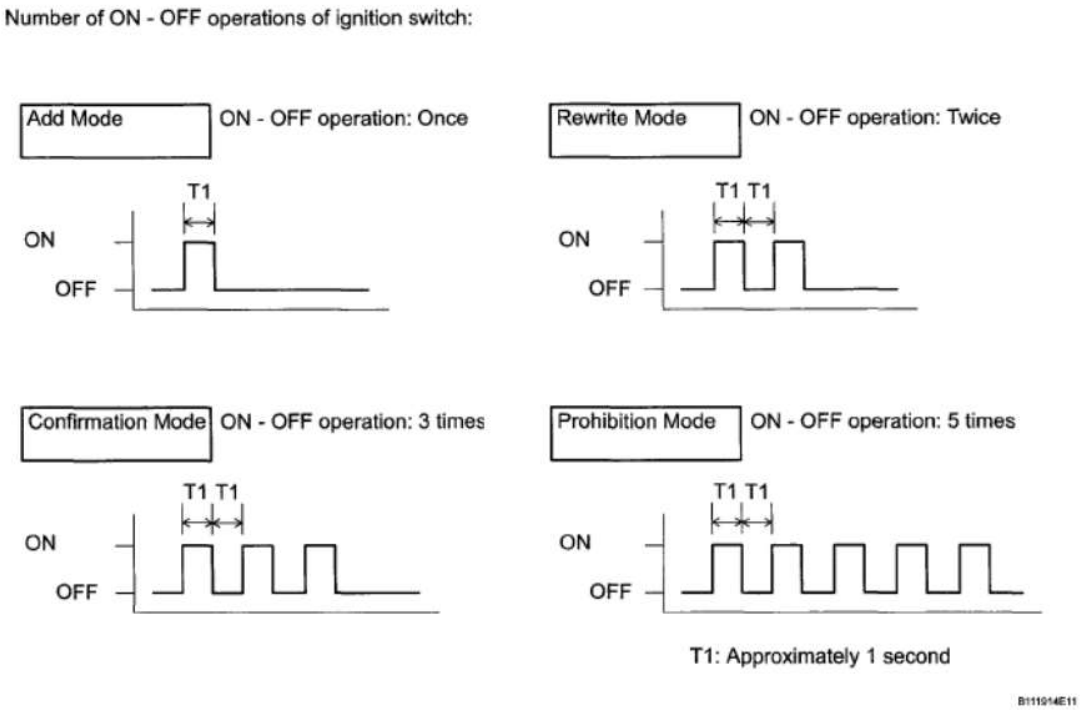


Fig. 43: Ignition Switch ON-OFF Operation Graph
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

HINT:

If the number of ignition switch ON - OFF operations is 0, 4, 6 or more, there will be no

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response (the power door lock and unlock operation) to show which mode has been selected.

2. Remove the key from the ignition key cylinder.

e. Check the response of the selected mode within 5 seconds.

Response to selected mode (power door lock operation):

Main body ECU automatically performs power door LOCK-UNLOCK operations to indicate which mode has been selected.

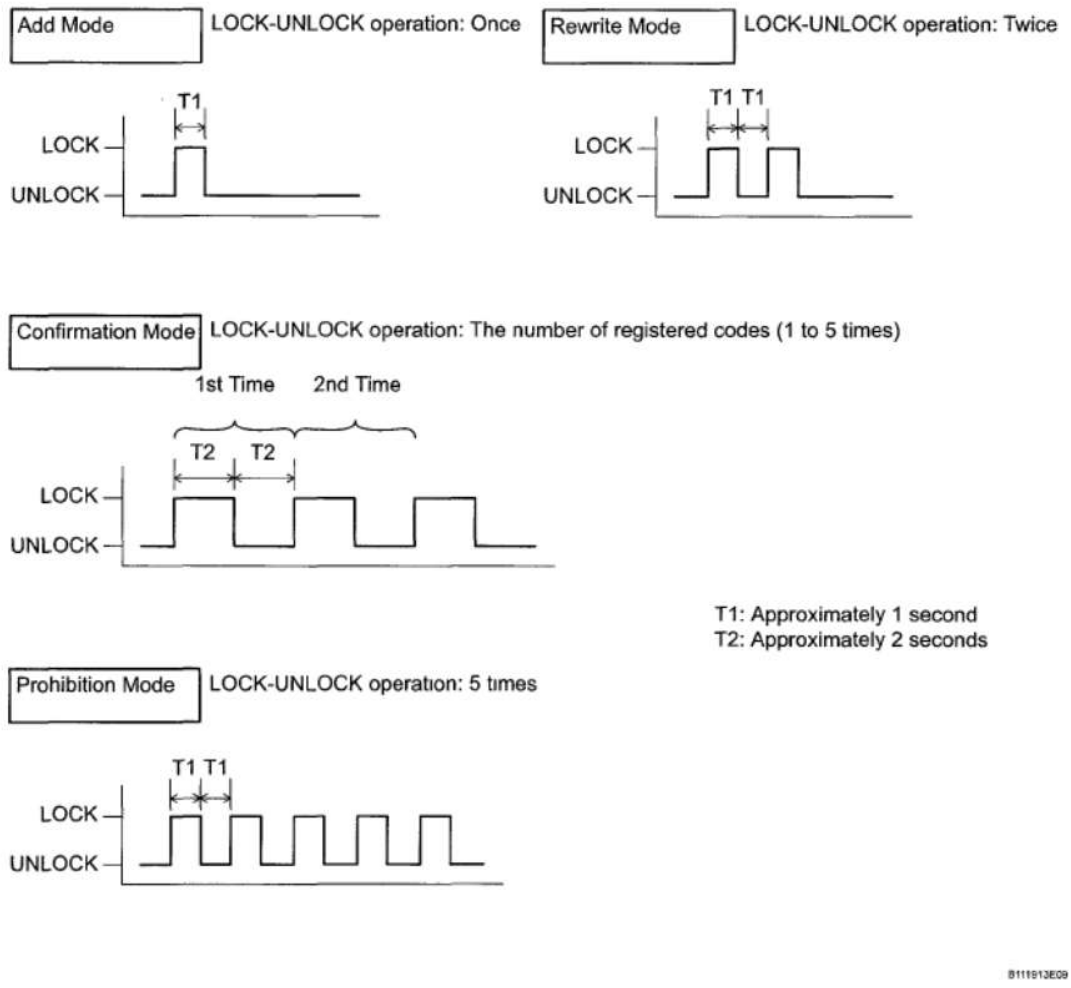


Fig. 44: Power Door LOCK-UNLOCK Operation Graph
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NOTE: After the system has been set to the prohibition mode, enter the confirmation mode and check that the number of registered keys is 0.

HINT:

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- In the 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, LOCK-UNLOCK operation will occur twice.
- In the confirmation mode, if no recognition codes have been registered, LOCK-UNLOCK operation will occur 5 times.
- If confirmation mode or prohibition mode is selected, the operation ends after the response to the selected mode completes.

f. Within 40 seconds of completing the confirmation mode operation, press the LOCK and UNLOCK switches on the transmitter simultaneously.

g. After completing the above step, press a single switch (LOCK or UNLOCK) within 5 seconds.

h. After completing the above step, check the response to the registration completion within 3 seconds.

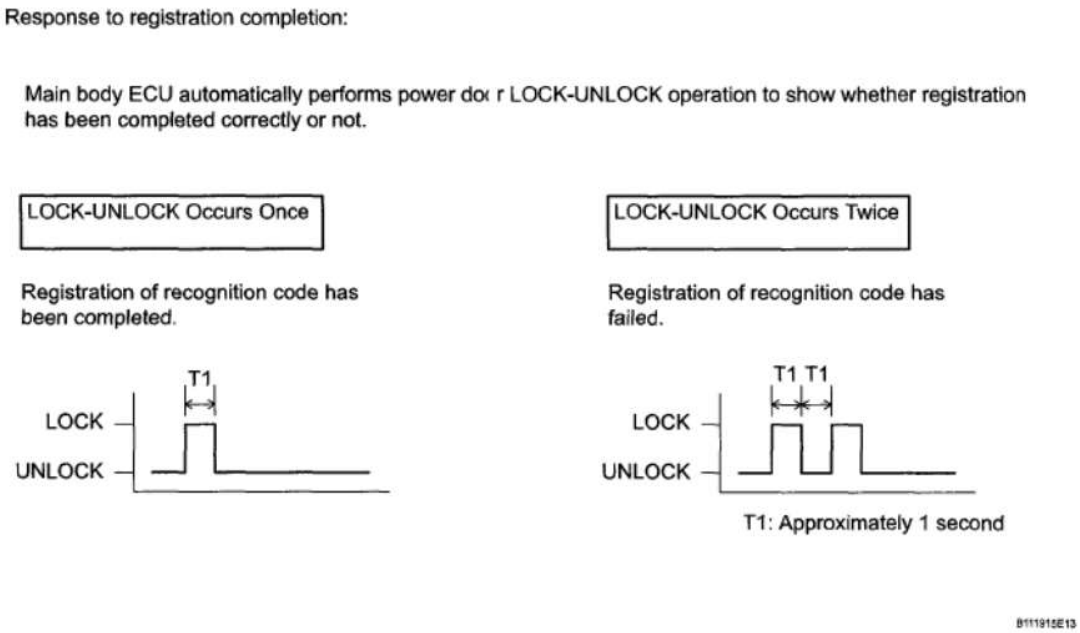


Fig. 45: Power Door LOCK-UNLOCK Operation Graph
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

HINT:

- If the LOCK-UNLOCK operation occurs twice, the registration of recognition code has failed. Perform registration procedures again from the beginning.
- If registering another transmitter, repeat the procedures after the response to the selected mode confirmation. All 6 recognition codes can be registered consecutively.

i. Perform either of the following to complete the registration of recognition codes:

- Open the door.
- Insert the key into the ignition key cylinder.

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CUSTOMIZE PARAMETERS

1. CUSTOMIZING FUNCTION WITH TECHSTREAM (REFERENCE)

HINT:

The following items can be customized.

NOTE:

- **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.**

a. Connect a Techstream to the DLC3.
b. Turn the ignition switch ON.
c. Turn the tester on.
d. Enter the following menus: Body Electrical / Main Body / Utility / Customize / Wireless Door Lock.
e. Select the setting by referring to the table below.

Main Body:

CUSTOMIZE PARAMETERS

Display (Item)	Default	Contents	Setting
Wireless Control	ON	ON / OFF of wireless door lock function	ON / OFF
Hazard Answer Back	ON	When LOCK switch on transmitter pressed, all hazard warning lights illuminate once When UNLOCK switch pressed, all hazard warning lights illuminate twice	ON / OFF
Wireless Buzzer Resp	ON	Function that makes wireless buzzer sound for answer-back when transmitter LOCK / UNLOCK switch pressed	ON / OFF
Open Door Warning	ON	If door is not completely closed and transmitter LOCK switch is pressed, this function sounds a buzzer for 10 seconds	ON / OFF
Auto Lock Time	30s	This function controls amount of time from unlocking doors to automatic re-locking function	30s / 60s
Unlock / 2 Operation	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
Panic Function	ON	Operates security alarm when PANIC switch on transmitter continuously pressed for 1 second	ON/OFF

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PROBLEM SYMPTOMS TABLE

HINT:

- Use the table below to help determine the cause 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.
- Inspect the fuses and relays related to this system before inspecting the suspected areas below.

Wireless door lock control system

PROBLEM SYMPTOMS TABLE - WIRELESS DOOR LOCK CONTROL SYSTEM

Symptom	Suspected Area	See
Only wireless control function is inoperative	Door control transmitter module	DOOR CONTROL TRANSMITTER
	Transmitter battery	TRANSMITTER BATTERY
	Lighting system	CUSTOMIZE PARAMETERS
	Main body ECU	TERMINALS OF ECU
	Door control receiver	DOOR CONTROL RECEIVER
	Unlock warning switch	UNLOCK WARNING SWITCH
	Wire harness	ONLY WIRELESS CONTROL FUNCTION IS INOPERATIVE
No answer-back	Main body ECU	TERMINALS OF ECU
	Lighting system	CUSTOMIZE PARAMETERS
	Wireless door lock buzzer	WIRELESS DOOR LOCK BUZZER
	Wire harness	NO ANSWER-BACK

TERMINALS OF ECU

1. **CHECK MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

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Vehicle Rear Side:

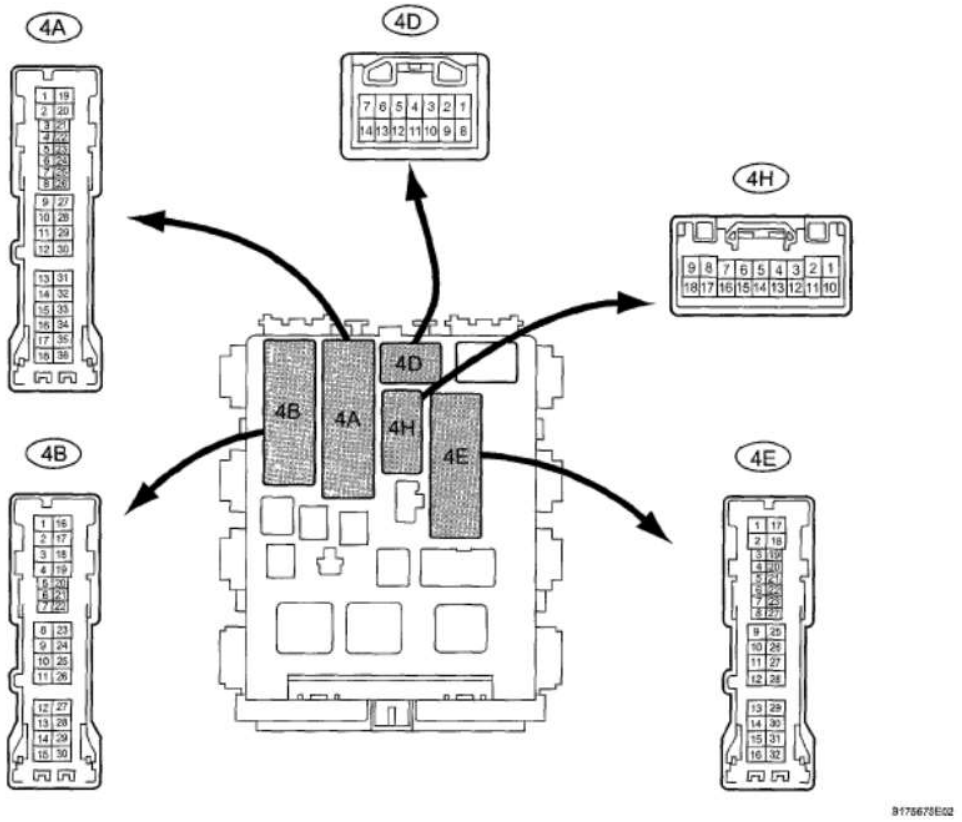


Fig. 46: Identifying Main Body ECU (Instrument Panel Junction Block) Connector Terminals (1 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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Vehicle Front Side:

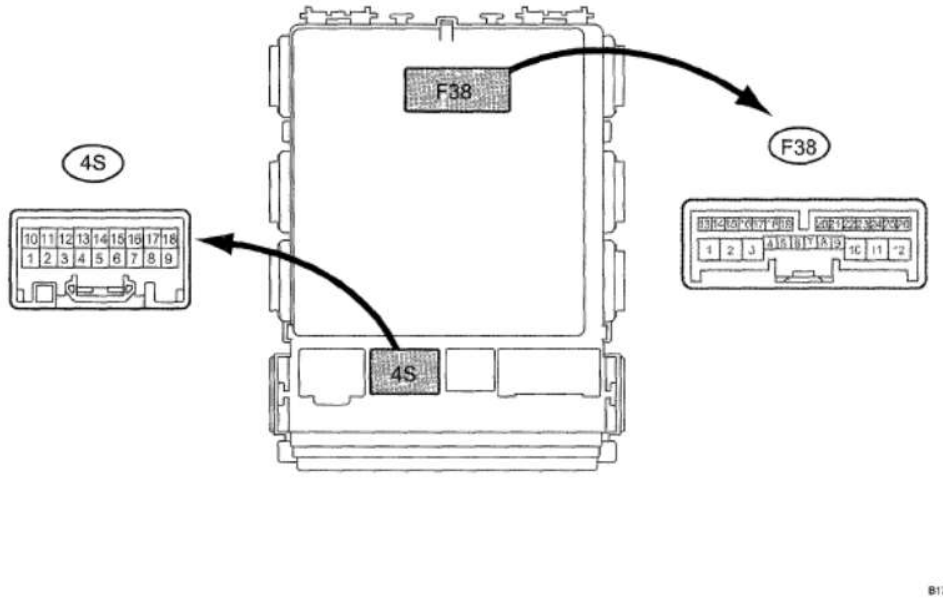


Fig. 47: Identifying Main Body ECU (Instrument Panel Junction Block) Connector Terminals (2 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

a. Disconnect the 4B and 4E junction block connectors.
b. Measure the resistance and voltage of the wire harness side connectors.

RESISTANCE AND VOLTAGE SPECIFICATION

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
4E-17 (GND1) - Body ground	W-B - Body ground	Ground	Always	Below 1 ohms
4B-30 (BECU) - 4E-17 (GND1)	L - W-B	Battery (power supply)	Always	11 to 14 V

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

c. Reconnect the 4B and 4E junction block connectors.
d. Measure the voltage of the wire harness side connectors.

VOLTAGE SPECIFICATION

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
4D-7 (KSW) -	Y - Body	Key unlock warning	Key inserted	11 to 14 V

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Body ground	ground	switch input	No key in ignition key cylinder	Below 1 V
4A-21 (DCTY) - Body ground	R - Body ground	Driver side door courtesy light switch input	Driver side door closed	11 to 14 V
			Driver side door open	Below 1 V
4A-24 (PCTY) - Body ground	L - Body ground	Passenger side door courtesy light switch input	Passenger side door closed	11 to 14 V
			Passenger side door open	Below 1 V
4A-5 (RRCY) - Body ground	G - Body ground	Rear LH door courtesy light switch input	Rear LH door closed	11 to 14 V
			Rear LH door open	Below 1 V
4A-20 (RRCY) - Body ground	L - Body ground	Rear RH door courtesy light switch input	Rear RH door closed	11 to 14 V
			Rear RH door open	Below 1 V
4A-7 (BCTY) - Body ground	SB - Body ground	Back door courtesy light switch input	Back side door closed	11 to 14 V
			Back side door open	Below 1 V
F38-2 (ACTD) - Body ground	SB - Body ground	Front door lock motor LH UNLOCK drive output	Master switch (door control switch) or driver side door key cylinder OFF	Below 1 V
			Master switch (door control switch) or driver side door key cylinder ON (UNLOCK)	11 to 14 V --> Below 1 V
4H-8 (ACT+) - Body ground	O - Body ground	Door lock motor LOCK drive output	Master switch (door control switch) or driver side door key cylinder OFF	Below 1 V
4H-17 (ACT+) - Body ground	W - Body ground			
4A-3 (ACT+) - Body ground	GR - Body ground		Master switch (door control switch) or driver side door key cylinder ON (LOCK)	11 to 14 V --> Below 1 V
4H-18 (ACT-) - Body ground 4A-4 (ACT-) - Body ground	P - Body ground	Door lock motor UNLOCK drive output	Master switch (door control switch) or driver side door key cylinder OFF	Below 1 V
			Master switch (door control switch) or driver side door key cylinder ON (UNLOCK)	11 to 14 V --> Below 1 V
F38-21 (LSWD) - Body ground	L - Body ground	Driver side door lock position switch input	Driver side door UNLOCK	Below 1 V
			Driver side door LOCK	11 to 14 V
F38-5 (LSWP) - Body ground	L - Body ground	Passenger side door lock position switch input	Passenger side door UNLOCK	Below 1 V
			Passenger side door LOCK	11 to 14 V
F38-17 (PRG) - Body ground	W - Body ground	Door control receiver output	Transmitter switch ON --> OFF (No key in ignition key cylinder, all doors closed)	Pulse generation
F38-16 (RDA)	R - Body	Door control receiver	Transmitter switch ON --> OFF (No key in ignition key	Pulse

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- Body ground	ground	input	cylinder, all doors closed)	generation
4S-17 (HAZ) - Body ground	B - Body ground	Hazard warning light signal	Answer-back ON	Pulse generation
			Answer-back OFF	Below 1 V
F38-15 (BZR)- Body ground	GR - Body ground	Wireless door lock buzzer signal	Answer-back ON	Pulse generation
			Answer-back OFF	Below 1 V
4B-28 (HORN) - Body ground	LG - Body ground	Vehicles horn signal	Panic switch OFF	11 to 14 V
			Panic switch ON	Pulse generation

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

DIAGNOSIS SYSTEM

1. **DESCRIPTION**

   The ECU stores trouble codes when trouble occurs on the vehicle. The diagnostic system allows for the reading of the trouble codes from the DLC3. Use a Techstream to check and solve the problem.

2. **CHECK DLC3**
   a. Check the DLC3 (See **HOW TO TROUBLESHOOT ECU CONTROLLED SYSTEMS**).

DTC CHECK / CLEAR

1. **DTC CHECK/CLEAR (USING TECHSTREAM)**
   a. DTC check
      1. Connect a Techstream to the DLC3.
      2. Turn the ignition switch to ON.
      3. Turn the tester ON.
      4. Enter the following menu: Body Electrical / Main Body / Trouble Codes.
      5. Check DTCs.

         HINT:

         Refer to the Techstream operator's manual for further details.

      6. Confirm the details of the DTCs (see **DIAGNOSTIC TROUBLE CODE CHART**).
   b. DTC clear
      1. Connect a Techstream to the DLC3.
      2. Turn the ignition switch to ON.
      3. Turn the tester ON.

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4. Enter the following menu: Body Electrical / Main Body / Trouble Codes.
5. Erase DTCs.

HINT:

Refer to the Techstream operator's manual for further details.

2. **SELF-DIAGNOSTIC MODE (OPERATING IGNITION KEY CYLINDER)**

a. Switch to self-diagnostic mode.

1. Insert the key into the ignition key cylinder and remove it.
2. Within 5 seconds after the key is removed, insert it into the ignition key cylinder and then turn the ignition switch ON then OFF 1 time. (End in OFF)
3. Within 30 seconds of turning the ignition switch OFF, perform the following 9 times: Turn the ignition switch ON then OFF. (End in OFF)

HINT:

Turning the ignition switch ON after the procedure above has been completed will end the self-diagnostic mode.

NOTE: If the system cannot enter the self-diagnostic mode, the system will return to normal mode.

b. Check that the system has switched to self-diagnostic mode by checking the flashes of the interior light.

Interior Light Output:

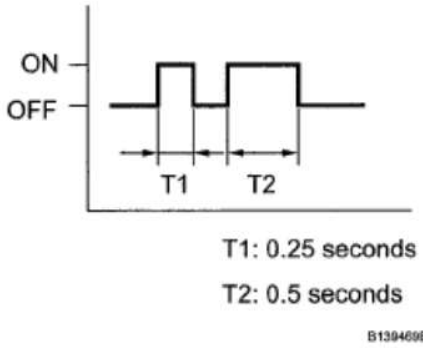


Fig. 48: Identifying Interior Light Flashes (1 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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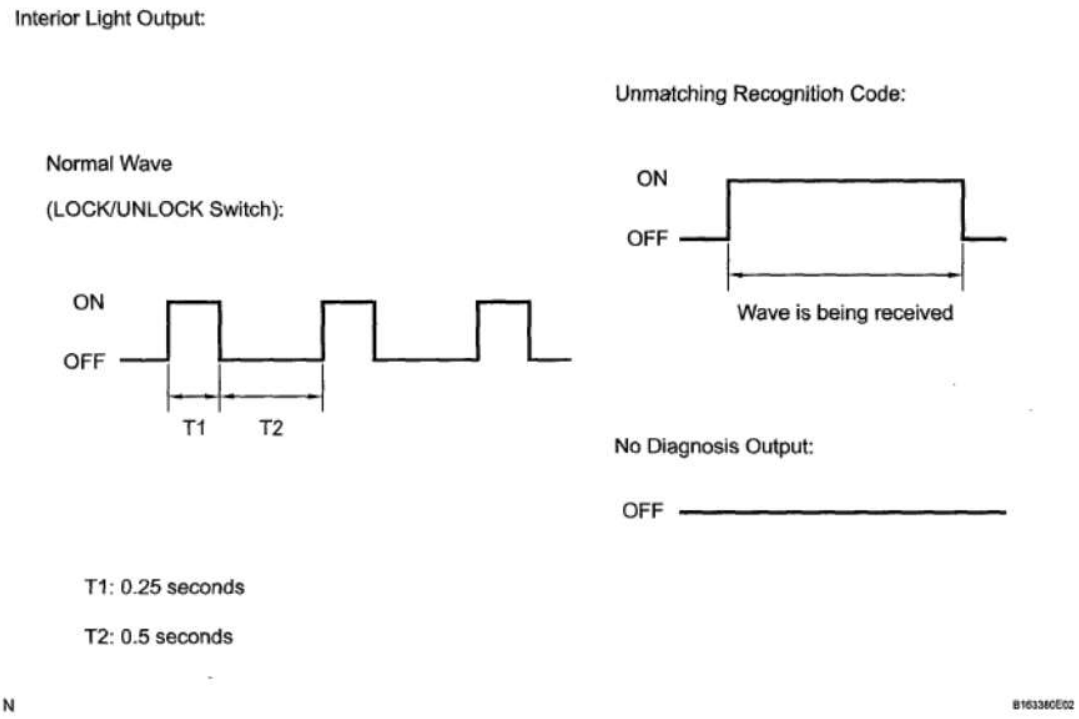


Fig. 49: Identifying Interior Light Flashes (2 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Check the diagnostic outputs when the door control transmitter switch is held down. The diagnostic outputs can be checked by the flashes of the interior light.

DATA LIST / ACTIVE TEST

1. **READ DATA LIST**

HINT:

Using a Techstream to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time

NOTE: In the table below, the values listed under Normal Condition are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

a. Connect a Techstream to the DLC3.
b. Turn the ignition switch to ON.
c. Turn the tester ON.
d. Enter the following menus: Body Electrical / Main Body / Data List.

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e. According to the display on tester, read on the "Data List".

Main Body:

DATA LIST - MAIN BODY

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
D Door Courtesy SW	Driver side door courtesy light switch signal / ON or OFF	ON Driver side door is open OFF Driver side door is closed	-
P Door Courtesy SW	Passenger side door courtesy light switch signal / ON or OFF	ON Passenger side door is open OFF Passenger side door is closed	-
RR Door Courtesy SW	Rear door RH courtesy light switch signal / ON or OFF	ON Rear door RH is open OFF Rear door RH is closed	-
RL Door Courtesy SW	Rear door LH courtesy light switch signal / ON or OFF	ON Rear door LH is open OFF Rear door LH is closed	-
Back Door Courtesy SW	Back door courtesy switch signal / ON or OFF	ON Back door is open OFF Back door is closed	-
Key Unlock Warning SW	Unlock warning switch / ON or OFF	ON Ignition key is inserted OFF Ignition key is not inserted	-

2. **PERFORM ACTIVE TEST**

HINT:

Using the Techstream to perform Active Tests allows relays, VSVs, actuators and parts. This non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing the Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

a. Connect a Techstream to the DLC3.
b. Turn the ignition switch to ON.
c. Turn the tester ON.
d. Enter the following menus: Body Electrical / Main Body / Active Test.
e. According to the display on tester, perform the "Active Test".

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Main Body

ACTIVE TEST DETAIL - MAIN BODY

Tester Display	Test Part	Control Range	Diagnostic Note
Hazard	Turns FLSH relay ON / OFF	ON or OFF	-
Vehicle Horn	Sounds vehicle horn ON / OFF	ON or OFF	-
Wireless Buzzer	Wireless door lock buzzer ON/ OFF	ON or OFF	-

DIAGNOSTIC TROUBLE CODE CHART

DIAGNOSTIC TROUBLE CODE CHART

DTC Code	Detection Item	Trouble Area
B1242	Wireless Door Lock Tuner Circuit Malfunction	○ Wire harness or connector ○ Door control receiver ○ Main body ECU

DTC B1242 WIRELESS DOOR LOCK TUNER CIRCUIT MALFUNCTION

DESCRIPTION

The door control receiver receives signals from the transmitter and sends these signals to the main body ECU. This DTC is output when the applicable RDA signal cannot be received within 1 second of the PRG signal being output from the main body ECU.

DTC DETECTION CONDITION AND TROUBLE AREA

DTC No.	DTC Detection Condition	Trouble Area
B1242	In diagnostic mode, applicable RDA signal cannot be received within 1 second of PRG signal being output from main body ECU	• Wire harness or connector • Door control receiver • Main body ECU

WIRING DIAGRAM

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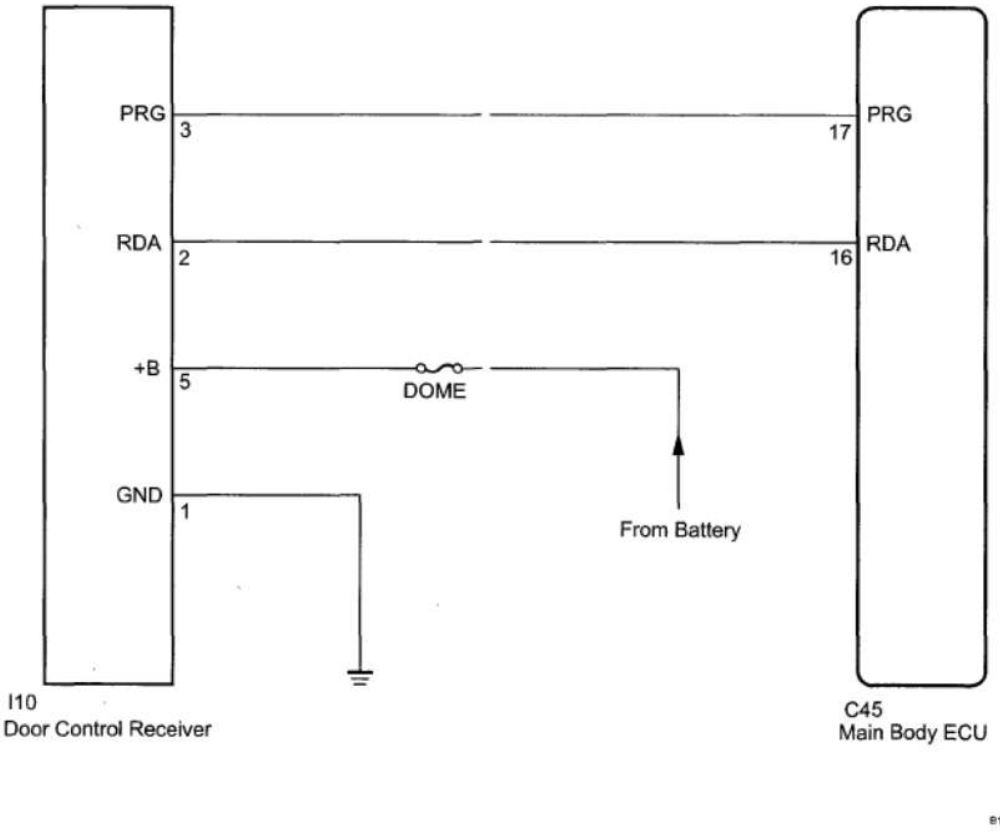


Fig. 50: Door Control Receiver - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - DOOR CONTROL RECEIVER)**
   a. Disconnect the F38 main body ECU connector.
   b. Disconnect the L15 door control receiver connector.
   c. Measure the resistance according to the value(s) in the table below.

   Standard resistance

   RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
F38-16 (RDA) - L15-2 (RDA)	Always	Below 1 ohms
F38-17 (PRG) - L15-3 (PRG)		
F38-16 (RDA) or L15-2 (RDA) - Body ground	Always	10 kohms or higher
F38-17 (PRG) or L15-3 (PRG) - Body ground		

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

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NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

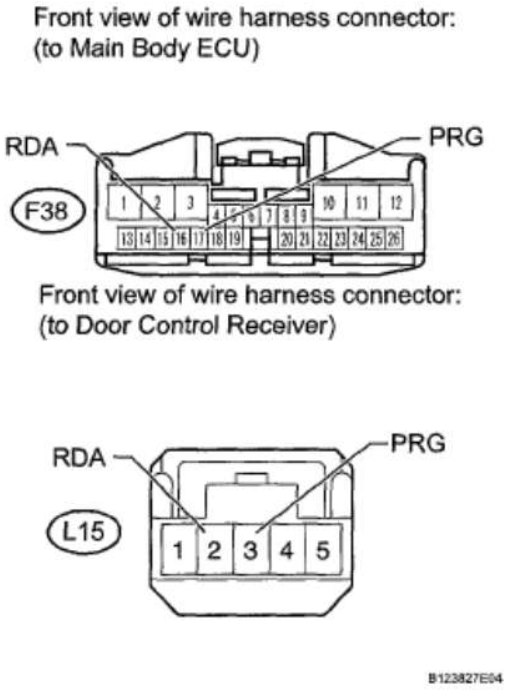


Fig. 51: Identifying Main Body ECU And Door Control Receiver Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to Next Step

2. **CHECK HARNESS AND CONNECTOR (DOOR CONTROL RECEIVER - BATTERY AND BODY GROUND)**
   a. Disconnect the L15 receiver connector.
   b. Measure the resistance and voltage according to the value(s) in the table below.

Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
L15-1 (GND) - Body ground	Always	Below 1 ohms

Standard voltage

VOLTAGE SPECIFICATION

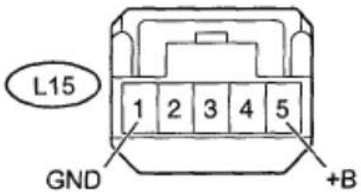
Tester Connection	Condition	Specified Condition
L15-5 (+B) - Body ground	Always	11 to 14 V

   c. Reconnect the receiver connector.

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NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connector:
(to Door Control Receiver)



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Fig. 52: Identifying Door Control Receiver Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to Next Step

3. **REPLACE DOOR CONTROL RECEIVER**
   a. Replace the door control receiver with a new or normal functioning one. (see **REMOVAL**).

      HINT:

      If a correctly functioning door control receiver is available, connect it and check if the wireless door lock function is normal or DTCs are not output. If the alternative receiver functions normally, replace the original door control receiver.

4. **REGISTER RECOGNITION CODE**
   a. Perform the REGISTRATION procedures (see **REGISTRATION**).
5. **CONFIRM DTC**
   a. Clear the DTC (see **DTC CHECK / CLEAR**).
   b. Check if the same DTC is detected.

      HINT:

      Reinstall the sensors, connectors, etc. and restore the previous vehicle conditions before rechecking for DTCs.

      Result

      RESULT REFERENCE

Result	Proceed to

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DTC B1242 is output	A
DTC B1242 is not output	B

B : END (DOOR CONTROL RECEIVER DEFECTIVE)

A : REPLACE MAIN BODY ECU

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. The main body ECU then controls all doors by sending lock / unlock signals to each door, and sends hazard flasher relay signals to the turn signal flasher relay (hazard warning lights).

WIRING DIAGRAM

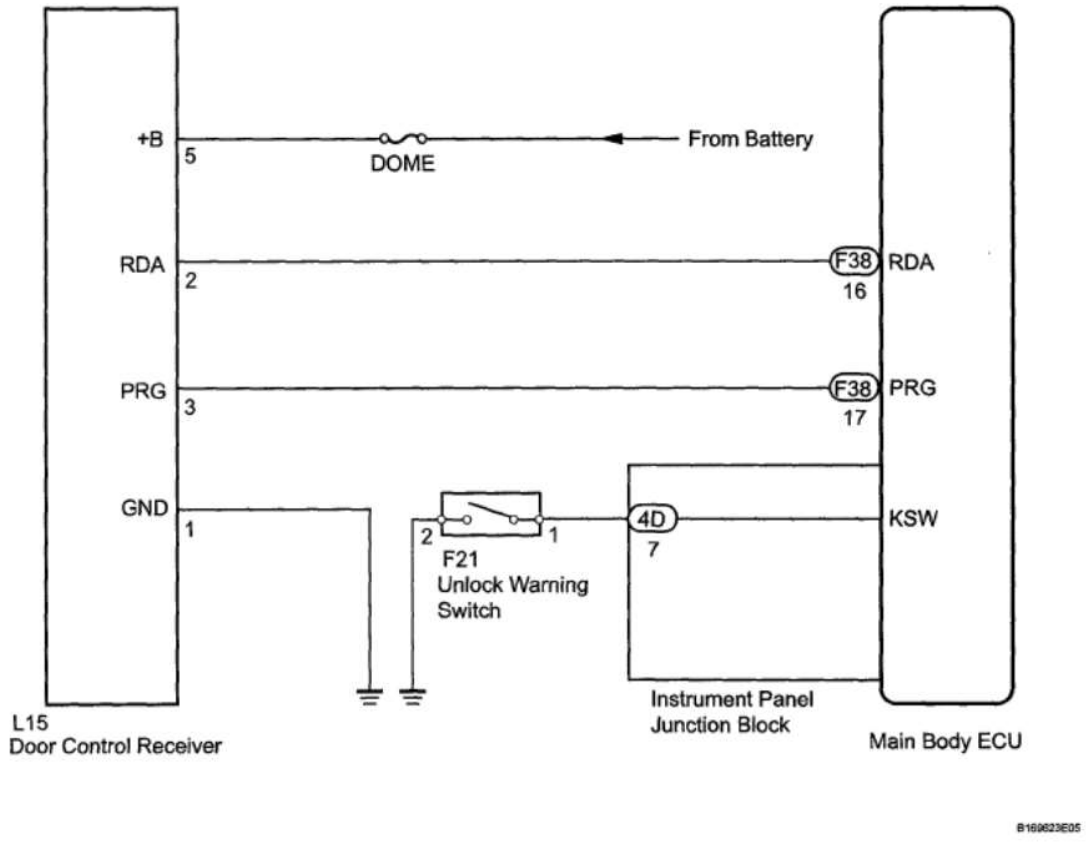


Fig. 53: Door Control Receiver - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

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1. **CHECK WIRELESS DOOR LOCK CONTROL FUNCTIONS**
   a. Check the wireless door lock control functions (see **OPERATION CHECK**).

      OK: Each function of wireless door lock control system operates normally using transmitter switch.

   NG: Go to step 2

   OK : USE SIMULATION METHOD TO CHECK (See **HOW TO PROCEED WITH TROUBLESHOOTING**)

2. **CHECK DOOR CONTROL TRANSMITTER MODULE**
   a. When another registered door control transmitter is used, check that the wireless door lock function operates normally (see **OPERATION CHECK**).

      OK: Wireless door lock function operates normally.

   NG: Go to step 4

   OK: Go to Next Step

3. **CHECK TRANSMITTER BATTERY**
   a. Remove the battery from the door control transmitter module that does not operate. Attach a lead wire (0.6 mm (0.0236 in.) in diameter or less including wire sheath) with tape or equivalent to the negative terminal (see **INSPECTION**).
   b. Install the previously removed transmitter battery.

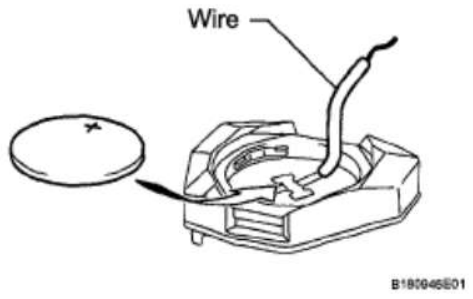


Fig. 54: Attaching Lead Wire To Negative Terminal
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   c. Using an oscilloscope, check the transmitter battery voltage waveform.

      HINT:

      When measuring the battery voltage, press one of the transmitter switches.

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Standard voltage

VOLTAGE SPECIFICATION

Item	Content
Tester Connection	Battery positive (+) - Battery negative (-)
Tool Setting	0.5 V/DIV., 100 ms/DIV.
Condition	Press one of the transmitter switches
Specified Condition	2.2 to 3.2 V (Refer to the wave form)

NG: REPLACE TRANSMITTER BATTERY (See **REPLACEMENT**)

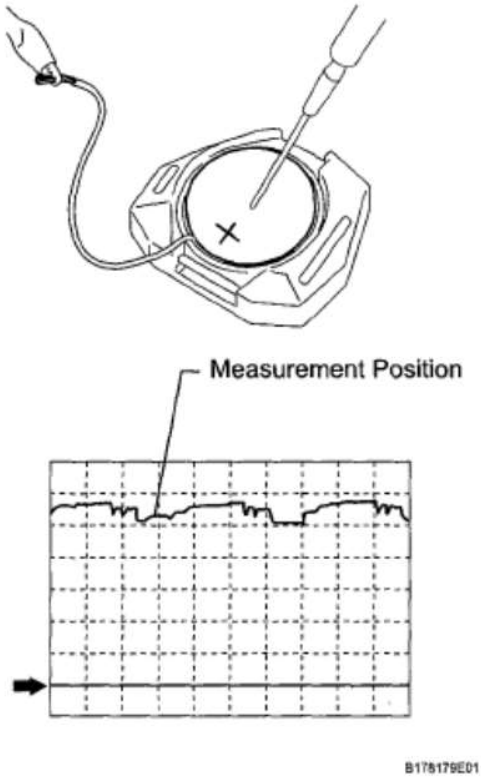


Fig. 55: Checking Transmitter Battery Voltage Waveform
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE DOOR CONTROL TRANSMITTER (See **REMOVAL**)

4. **CHECK ROOM LIGHT**
   a. Check that the room light illumination operates normally.

   OK: Room light operation normal.

NG: Go to LIGHTING SYSTEM (PROBLEM SYMPTOMS TABLE) (See **PROBLEM**

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SYMPTOMS TABLE)

OK: Go to Next Step

5. **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.

NOTE: 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.

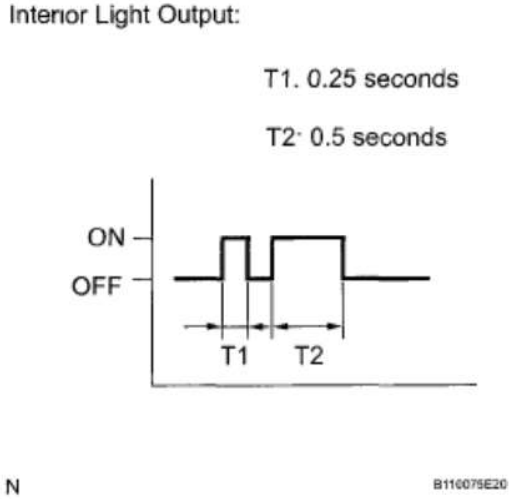


Fig. 56: Identifying Interior Light Flashes
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   b. Check that the system has switched to self-diagnostic mode by checking the room light flash pattern.

OK: Flash pattern is same as illustration.

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NG: Go to step 12

OK: Go to Next Step

6. **CHECK BY SELF DIAGNOSTIC MODE**

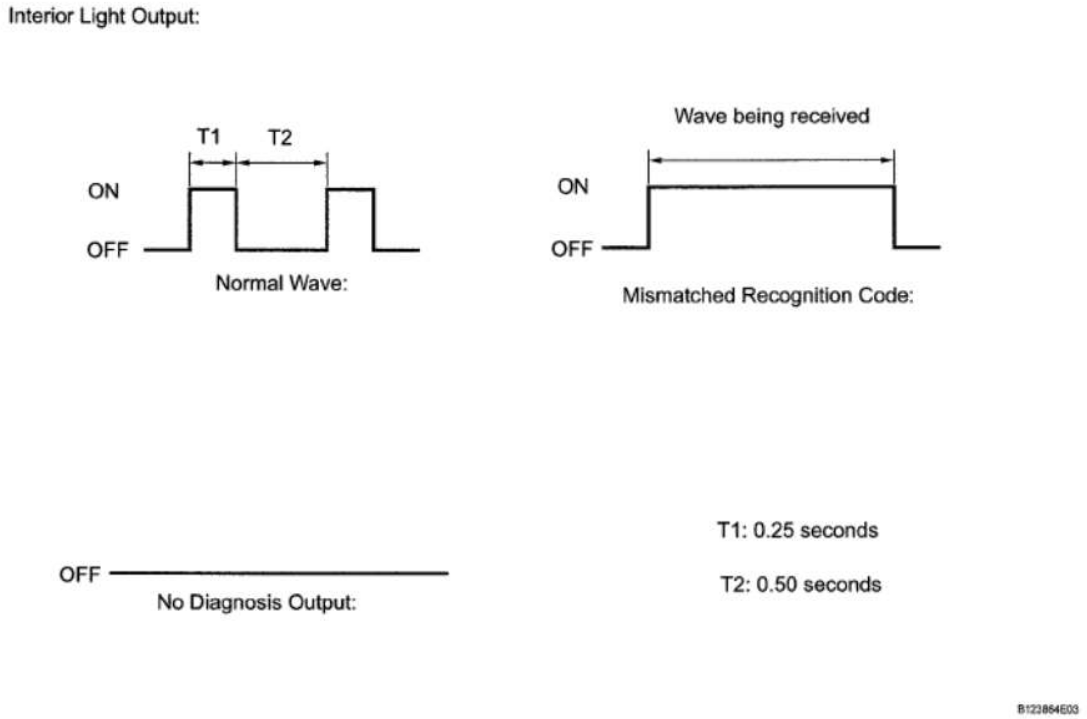


Fig. 57: Identifying Interior Light Flashes
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

a. Inspect the diagnosis outputs when the door control transmitter switch is held down. The diagnosis outputs can be checked by the flash patterns of the room light.

Result:

RESULT REFERENCE

Result	Proceed to
Unmatching recognition code is output	A
Normal waves (light flash patterns) are output	B
No diagnosis outputs	C

B : REPLACE MAIN BODY ECU

C: Go to step 8

A: Go to Next Step

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7. **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 (see **REGISTRATION**).

      OK: Recognition code can be registered.

   NG: Go to step 15

   OK : END

8. **CHECK DOOR CONTROL RECEIVER (RESPONSE)**
   a. Prepare the door control transmitter of another vehicle.
   b. Held down the door control transmitter switch.
   c. Check that an unmatching recognition code is output.

      OK: Unmatching recognition code is output.

   NG: Go to step 9

   OK : REPLACE UNLOCK WARNING SWITCH (See **REMOVAL**)

9. **REPLACE DOOR CONTROL RECEIVER**
   a. Temporarily replace the door lock control receiver with a new or normally functioning one (see **REMOVAL**).
10. **REGISTER RECOGNITION CODE**
    a. Perform the REGISTRATION procedures (see **REGISTRATION**).
11. **CHECK DOOR CONTROL RECEIVER (OPERATION)**
    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 MAIN BODY ECU

    OK : END (DOOR CONTROL RECEIVER IS DEFECTIVE)

12. **INSPECT UNLOCK WARNING SWITCH**
    a. Remove the unlock warning switch (see **REMOVAL**).
    b. Measure the resistance according to the value(s) in the table below.

       Standard resistance

       RESISTANCE SPECIFICATION

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Tester Connection	Switch Condition	Specified Condition
1 - 2	Free	10 kohms or higher
	Pushed	Below 1 ohms

c. Reconnect the unlock warning switch.

NG: REPLACE UNLOCK WARNING SWITCH (See **REMOVAL**)

Component without harness connected:
(to Unlock Warning Switch)

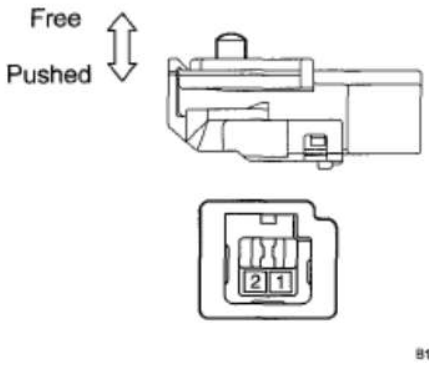


Fig. 58: Inspecting Unlock Warning Switch
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to Next Step

13. **CHECK HARNESS AND CONNECTOR (UNLOCK WARNING SWITCH - MAIN BODY ECU AND BODY GROUND)**
    a. Disconnect the F21 unlock warning switch connector.
    b. Disconnect the 4D main body ECU connector.
    c. Measure the resistance according to the value(s) in the table below.

Standard resistance

RESISTANCE SPECIFICATION

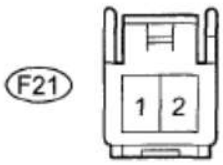
Tester Connection	Condition	Specified Condition
4D-7 (KSW) - F21-1	Always	Below 1 ohms
F21-2 - Body ground		
4D-7 (KSW) or F21-1 - Body ground	Always	10 kohms or higher

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

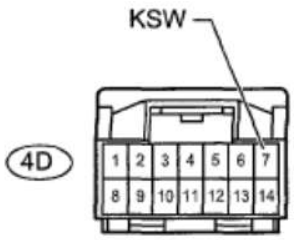
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NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connector:
(to Unlock Warning Switch)



Front view of wire harness connector:
(to Main Body ECU)



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Fig. 59: Identifying Main Body ECU And Unlock Warning Switch Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to Next Step

14. **CHECK DOOR CONTROL RECEIVER (OUTPUT)**
    a. Measure the voltage according to the value(s) in the table below.

Standard voltage

VOLTAGE SPECIFICATION

Tester Connection	Switch Condition	Specified Condition
L15-2 (RDA) - Body ground	Transmitter switch ON --> OFF (No key in ignition key cylinder, all doors closed)	Below 1 V --> 6 to 7 V --> Below 1 V

NG: Go to step 15

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Component without harness connected:
(Door Control Receiver)

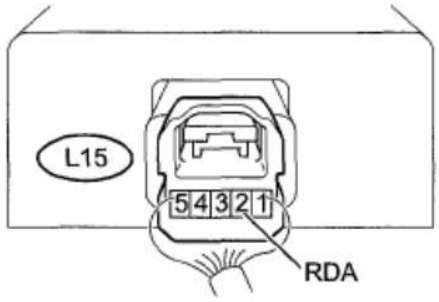


Fig. 60: Identifying Door Control Receiver Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE MAIN BODY ECU

15. **REPLACE DOOR CONTROL TRANSMITTER MODULE**
    a. Temporarily replace the door control transmitter module with a new or normally functioning one.
16. **REGISTER RECOGNITION CODE**
    a. Perform the REGISTRATION procedures (see **REGISTRATION**).
17. **CHECK 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 (See **REMOVAL**)

OK: Go to Next Step

NO ANSWER-BACK

DESCRIPTION

In some cases, wireless door lock control functions are normal but the hazard warning lights and / or wireless door lock buzzer answer-back function(s) do not operate. In such cases, the main body ECU's hazard warning lights and wireless door lock buzzer signal outputs may be malfunctioning.

NOTE: Troubleshooting should be started after confirming that the customize status of the answer-back function has been switched ON.

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WIRING DIAGRAM

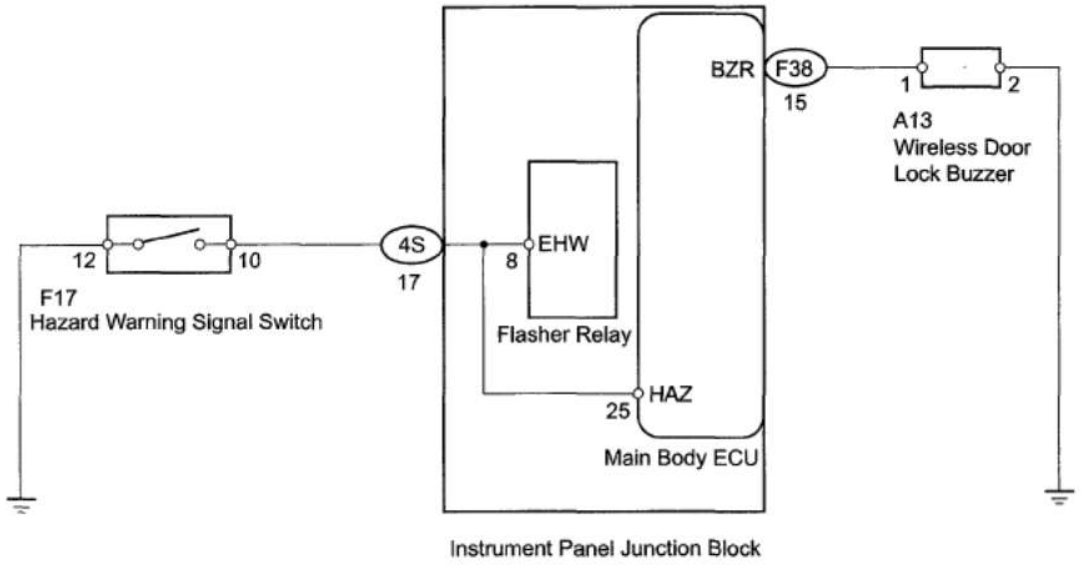


Fig. 61: Hazard Warning Signal Switch - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **CHECK WIRELESS DOOR LOCK CONTROL FUNCTION**
   a. Check the wireless door lock control functions by operating the transmitter switch.

   Result:

   RESULT REFERENCE

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

B: Go to step 4

C: Go to **PROBLEM SYMPTOMS TABLE**

A: Go to Next Step

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2. **PERFORM ACTIVE TEST USING TECHSTREAM (FLASHER RELAY)**
   a. Connect a Techstream to the DLC3.
   b. Turn the ignition switch ON.
   c. Turn the tester on.
   d. Enter the following menus: Body Electrical / Main Body / Active Test.
   e. According to the display on tester, perform the "Active Test".

   Main Body

   ACTIVE TEST DETAIL - MAIN BODY

Tester Display	Test Part	Control Range	Diagnostic Note
Hazard	Flasher relay	ON or OFF	-

   OK: Hazard warning lights are turned ON / OFF.

NG: Go to step 3

OK : REPLACE MAIN BODY ECU

3. **CHECK HAZARD WARNING LIGHT**
   a. Check that the hazard warning lights flash continuously when the hazard warning signal switch is pressed.

   OK: Hazard warning lights flash continuously.

NG: GO TO LIGHTING SYSTEM (Hazard Warning Switch Circuit) (See **HAZARD WARNING SWITCH CIRCUIT**)

OK : REPLACE MAIN BODY ECU

4. **PERFORM ACTIVE TEST USING TECHSTREAM (WIRELESS DOOR LOCK BUZZER)**
   a. Connect a Techstream to the DLC3.
   b. Turn the ignition switch ON.
   c. Turn the tester on.
   d. Enter the following menus: Body Electrical / Main Body / Active Test.
   e. According to the display on tester, perform the "Active Test".

   Main body

   ACTIVE TEST DETAIL - MAIN BODY

Tester Display	Test Part	Control Range	Diagnostic Note
Wireless Buzzer	Sounds wireless buzzer	ON or OFF	-

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OK: Wireless buzzer turns ON/OFF.

NG: Go to step 5

OK : REPLACE MAIN BODY ECU

5. **INSPECT WIRELESS DOOR LOCK BUZZER**
   a. Measure the resistance according to the value(s) in the table below.

Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
1 - 2	Always	1 kohms

NOTE:

- **The buzzer circuit is built into the main body ECU, not into the buzzer itself.**
- **When battery voltage is directly applied to the buzzer, the buzzer does not sound.**

Component without harness connected:
(Wireless Door Lock Buzzer)



Fig. 62: Identifying Wireless Door Lock Buzzer Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NG: REPLACE WIRELESS DOOR LOCK BUZZER (See **REMOVAL**)

OK: Go to Next Step

6. **CHECK HARNESS AND CONNECTOR (WIRELESS DOOR LOCK BUZZER - MAIN BODY ECU AND BODY GROUND)**
   a. Disconnect the A13 wireless door lock buzzer connector.
   b. Disconnect the F38 main body ECU connector.
   c. Measure the resistance according to the value(s) in the table below.

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Standard resistance

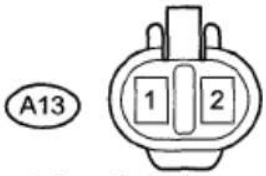
RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
A13-1 - F38-15 (BZR)	Always	Below 1 ohms
A13-2 - Body ground	Always	
A13-1 or F38-15 (BZR) - Body ground	Always	10 kohms or higher

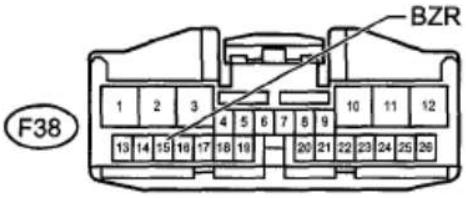
d. Disconnect the wireless door lock buzzer connector.
e. Disconnect the main body ECU connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connector:
(to Wireless Door Lock Buzzer)



Front view of wire harness connector:
(to Main Body ECU)



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Fig. 63: Identifying Main Body ECU And Wireless Door Lock Buzzer Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE MAIN BODY ECU

KEY REMINDER WARNING SYSTEM

PARTS LOCATION

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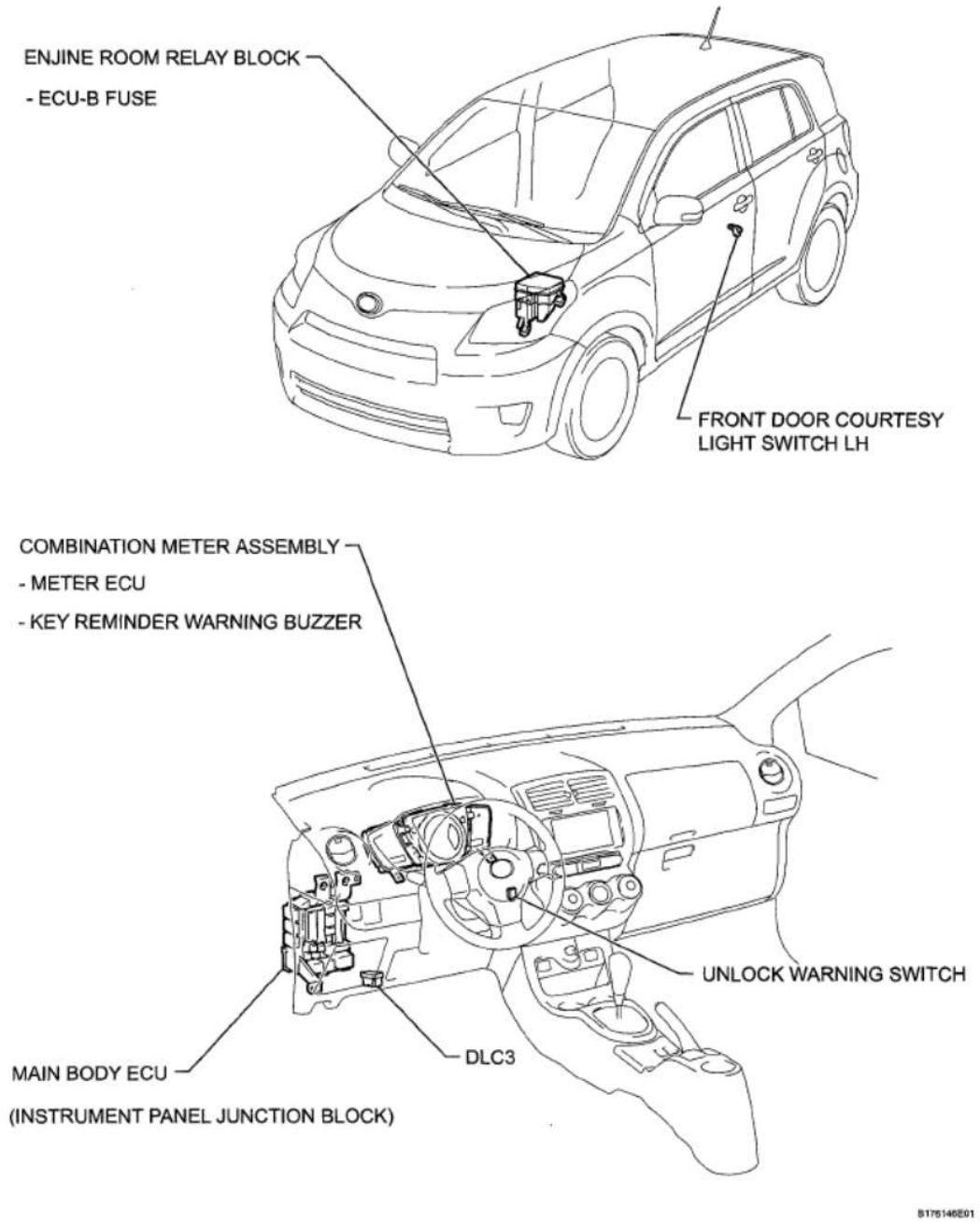


Fig. 64: Identifying Key Reminder Warning System Parts Location
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

SYSTEM DIAGRAM

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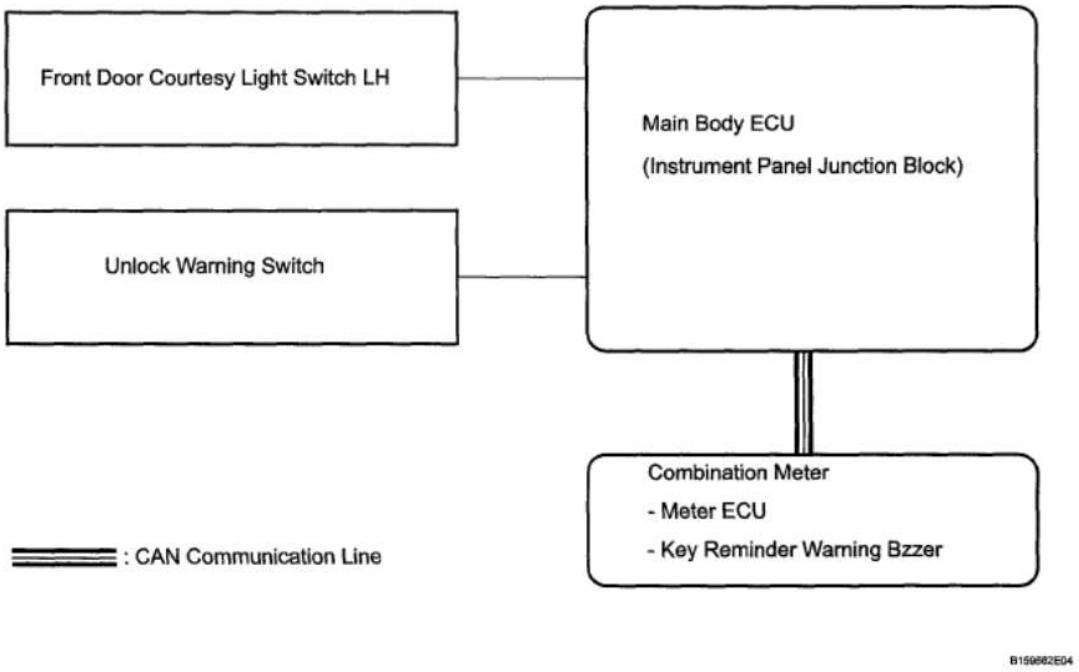


Fig. 65: Key Reminder Warning System Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Communication table:

COMMUNICATION TABLE

Sender	Receiver	Signal	Line
Main Body ECU	Combination Meter	Driver's side door courtesy light switch signal	CAN
Main Body ECU	Combination Meter	Unlock warning switch signal	CAN

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 a buzzer to sound in order to warn the driver that the ignition key has not been removed.
2. **FUNCTION OF MAIN COMPONENT**

FUNCTION OF MAIN COMPONENT

Component	Function
Front Door Courtesy Light Switch LH	Detects front door status (open or closed) and outputs signal to main body ECU
Unlock Warning Switch	Detects if key is inserted into ignition key cylinder or not and outputs signal to main body ECU
	Receives buzzer request signal from main body ECU after main body ECU

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Combination Meter	receives ignition switch signal and front door courtesy light switch signal, and actuates inner circuit to sound built-in buzzer intermittently

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- Use the following procedures to troubleshoot the key reminder warning system.
- *: Use a Techstream.

1. **VEHICLE BROUGHT TO WORKSHOP**
2. **CUSTOMER PROBLEM ANALYSIS CHECK**

   HINT:

   - In troubleshooting, confirm that the problem symptoms have been accurately identified. Preconceptions should be discarded in order to make an accurate judgment. To clearly understand what the problem symptoms are, it is extremely important to ask the customer about the problem and the conditions at the time the malfunction occurred.
   - Gather as much information as possible for reference. Past problems that seem unrelated may also help in some cases.

   The following 5 items are important points in the problem analysis:

   CUSTOMER PROBLEM ANALYSIS POINTS

What	Vehicle model, system name
When	Date, time, occurrence frequency
Where	Road conditions
Under what conditions?	Driving conditions, weather conditions
How did it happen?	Problem symptoms

3. **INSPECT BATTERY VOLTAGE**
   a. Measure the battery voltage

      Standard voltage: 11 to 14 V

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

4. **CHECK COMMUNICATION FUNCTION CAN COMMUNICATION SYSTEM***
   a. Use the Techstream to check if the CAN communication system is functioning normally.

      Result

      RESULT REFERENCE

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

B: Go to CAN COMMUNICATION SYSTEM (DIAGNOSIS SYSTEM) (See **DIAGNOSIS SYSTEM**)

A: Go to Next Step

5. **PROBLEM SYMPTOMS TABLE**

Result

RESULT REFERENCE

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

B: Go to step 7

A: Go to Next Step

6. **OVERALL ANALYSIS AND TROUBLESHOOTING***
   a. Operation Check (see **OPERATION CHECK**)
   b. Terminals of ECU (see **TERMINALS OF ECU**)
   c. DATA LIST/ACTIVE TEST (see **DATA LIST / ACTIVE TEST**)
7. **REPAIR OR REPLACE**
8. **CONFIRMATION TEST***

NEXT : END

OPERATION CHECK

1. **CHECK KEY REMINDER WARNING SYSTEM**
   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 the LOCK or ACC position.
      2. Check that the buzzer sounds intermittently if the driver side door are opened.
   b. Check that the key reminder warning buzzer stops.
      1. Check that the buzzer stops sounding when any of the following operations are performed while the buzzer is sounding:
         - Close the driver side door (front door courtesy switch is off).

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- Turn the ignition switch to the ON position.
- Remove the key from the ignition key cylinder.

PROBLEM SYMPTOMS TABLE

HINT:

Use the table below to help determine the cause 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

PROBLEM SYMPTOMS TABLE - KEY REMINDER WARNING SYSTEM

Symptom	Suspected Area	See
Key reminder buzzer does not sound	Unlock warning switch	KEY REMINDER BUZZER DOES NOT SOUND
	Front door courtesy light switch LH	KEY REMINDER BUZZER DOES NOT SOUND
	Harness and connector	KEY REMINDER BUZZER DOES NOT SOUND
	Main body ECU	KEY REMINDER BUZZER DOES NOT SOUND
	Combination meter (Key reminder buzzer)	KEY REMINDER BUZZER DOES NOT SOUND
	CAN communication system	PROBLEM SYMPTOMS TABLE

TERMINALS OF ECU

1. **CHECK MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

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Vehicle Rear Side:

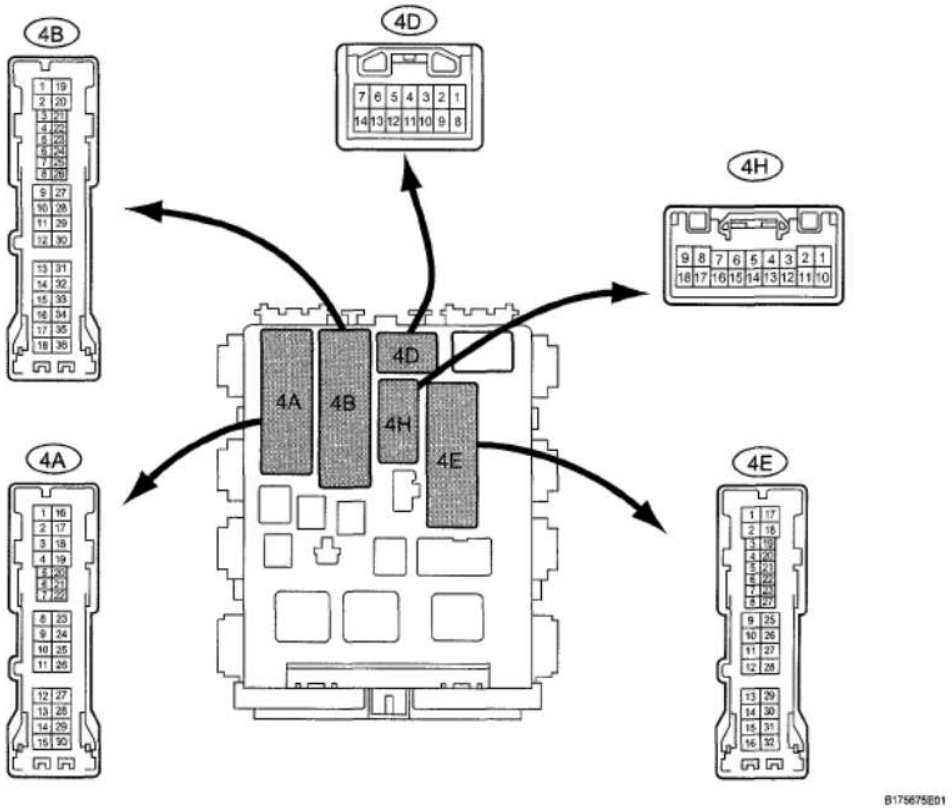
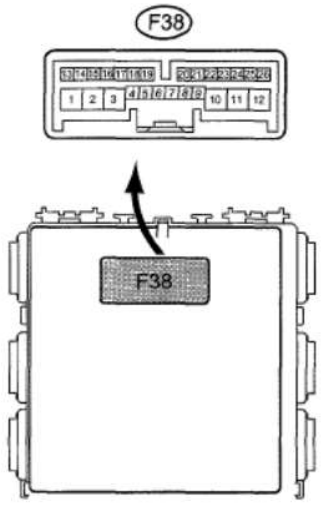


Fig. 66: Identifying Main Body ECU (Instrument Panel Junction Block) Connector Terminals (1 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Vehicle Front Side:



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Fig. 67: Identifying Main Body ECU (Instrument Panel Junction Block) Connector Terminals (2 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

a. Disconnect the 4A, 4B, 4D, 4E and F38 main body ECU (instrument panel junction block) connectors.
b. Measure the resistance and voltage according to the value(s) in the table below.

RESISTANCE AND VOLTAGE SPECIFICATION

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
4E-17 (GND1) - Body ground	W-B - Body ground	Ground	Always	Below 1 ohms
4B-30 (BECU) - Body ground	L - Body ground	Power source	Always	11 to 14 V
4A-21 (DCTY) - Body ground	R - Body ground	Front door courtesy light switch LH signal	Switch pushed (Door closed)	10 kohms or higher
			Switch not pushed (Door open)	Below 1 ohms
4D-7 (KSW) - Body ground	Y - Body ground	Key unlock warning switch signal	No key is in ignition key cylinder	10 kohms or higher
			Key is in ignition key cylinder	Below 1 ohms
F38-23 (CANH) - F38-22 (CANL)	R - W	CAN communication line	Ignition switch OFF	54 to 69 ohms
F38-23 (CANH) - 4E-17 (GND1)	R - W-B	CAN communication line	Ignition switch OFF	200 ohms or higher
F38-22 (CANL) - 4E-17 (GND1)	W - W-B	CAN communication line	Ignition switch OFF	200 ohms or higher

HINT:

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

DATA LIST / ACTIVE TEST

1. **READ DATA LIST**

HINT:

Using a Techstream to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

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NOTE: In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

a. Connect the Techstream to the DLC3.
b. Turn the ignition switch ON.
c. Turn the tester on.
d. Enter the following menus: Body Electrical / Main Body / Data List
e. According to the display on tester, read the "Data List".

Main Body

DATA LIST - MAIN BODY

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Key Unlock Warning SW	Unlock warning switch signal / ON or OFF	ON: Key is in ignition key cylinder OFF No key is in ignition key cylinder	-
D Door Courtesy SW	Driver side door courtesy light switch signal / ON or OFF	ON Driver side door is open OFF: Driver side door is closed	-

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 light switch signal to the combination meter.

HINT:

Since the key reminder warning system has functions that use CAN communication, first confirm that there is no malfunction in the communication system by inspecting the CAN communication function in accordance with the "HOW TO PROCEED WITH TROUBLESHOOTING" procedures. Then, conduct the following inspection procedure.

WIRING DIAGRAM

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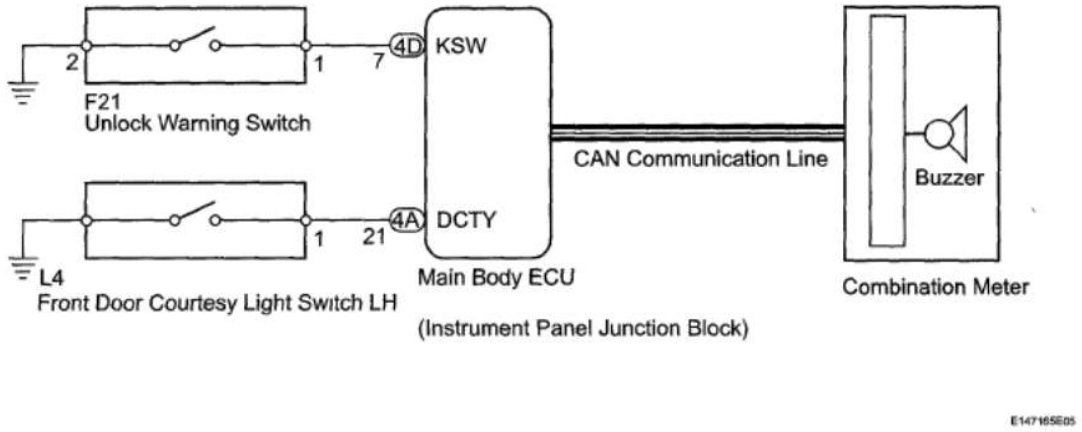


Fig. 68: Unlock Warning Switch - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **READ VALUE USING TECHSTREAM (FRONT DOOR COURTESY LIGHT SWITCH LH)**
   a. Connect a Techstream to the DLC3.
   b. Turn the ignition switch ON.
   c. Turn the tester on.
   d. Enter the following menus: Body Electrical / Main Body / Data List.
   e. According to the display on tester, read on the "Data List".

   Main Body

   DATA LIST - MAIN BODY

Tester Display	Measurement Item/Range	Normal Condition
D Door Courtesy SW	Front door courtesy light switch LH signal / ON or OFF	ON Driver side door is open OFF Driver side door is closed

   OK: ON (driver door is open) appears on the screen.

   NG: GO TO LIGHTING SYSTEM (DOOR COURTESY LIGHT SWITCH CIRCUIT) (See **DOOR COURTESY SWITCH CIRCUIT**)

   OK: Go to Next Step

2. **READ VALUE USING TECHSTREAM (UNLOCK WARNING SWITCH)**
   a. Connect a Techstream to the DLC3.
   b. Turn the ignition switch ON.

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c. Turn the tester on.
d. Enter the following menus: Body Electrical / Main Body / Data List.
e. According to the display on tester, read on the "Data List".

Main Body

DATA LIST - MAIN BODY

Tester Display	Measurement Item/Range	Normal Condition
Key Unlock Warning SW	Unlock warning switch signal / ON or OFF	ON Key is in ignition key cylinder OFF No key is in ignition key cylinder

OK: ON (Key is in ignition key cylinder) appears on the screen.

NG: Go to step 4

OK: Go to Next Step

3. **CHECK COMBINATION METER (TAILLIGHT REMINDER WARNING BUZZER)**
   a. Remove the key from the key cylinder, turn the light control switch to the tail position and open the driver side door.

   OK: The taillight reminder warning buzzer sounds.

   HINT:

   The key reminder warning buzzer uses the same buzzer as the taillight reminder warning buzzer.

NG: REPLACE COMBINATION METER (See **REMOVAL**)

OK : REPLACE MAIN BODY ECU

4. **INSPECT UNLOCK WARNING SWITCH**
   a. Remove the unlock warning switch (see **REMOVAL**).
   b. Measure the resistance according to the value(s) in the table below.

   Standard resistance

   RESISTANCE SPECIFICATION

Tester Connection	Switch Condition	Specified Condition
1 - 2	Not pushed	10 kohms or higher
	Pushed	Below 1 ohms

   c. Reinstall the unlock warning switch (see **INSTALLATION**).

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NG: REPLACE UNLOCK WARNING SWITCH ASSEMBLY (See **REMOVAL**)

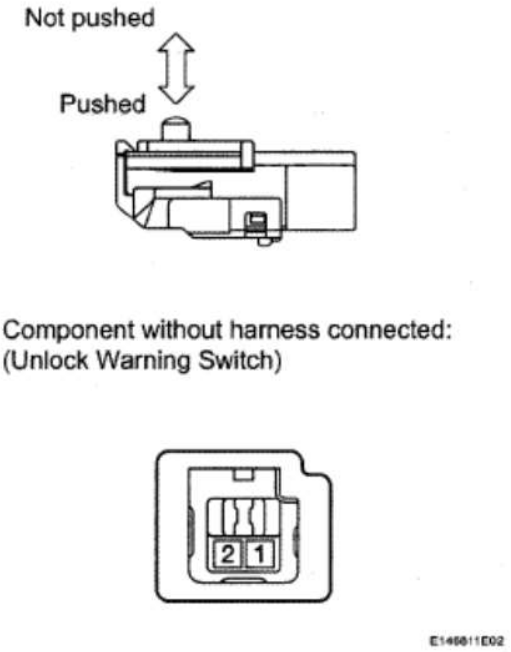


Fig. 69: Inspecting Unlock Warning Switch
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to Next Step

5. **CHECK HARNESS AND CONNECTOR (UNLOCK WARNING SWITCH - MAIN BODY ECU AND BODY GROUND)**
   a. Disconnect the F21 unlock warning switch connector.
   b. Disconnect the 4D main body ECU connector.
   c. Measure the resistance according to the value(s) in the table below.

   Standard resistance

   RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
F21-1 - 4D-7 (KSW)	Always	Below 1 ohms
F21-2 - Body ground	Always	Below 1 ohms

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

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

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Front view of wire harness connector:
(to Unlock Warning Switch)



Front view of wire harness connector:
(to Main Body ECU)

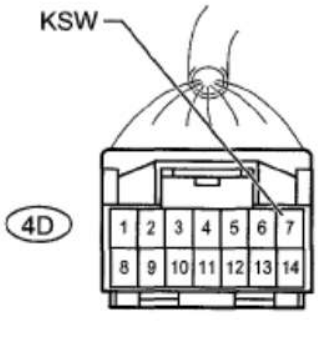


Fig. 70: Identifying Main Body ECU And Unlock Warning Switch Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE MAIN BODY ECU

TRANSMITTER BATTERY

COMPONENTS

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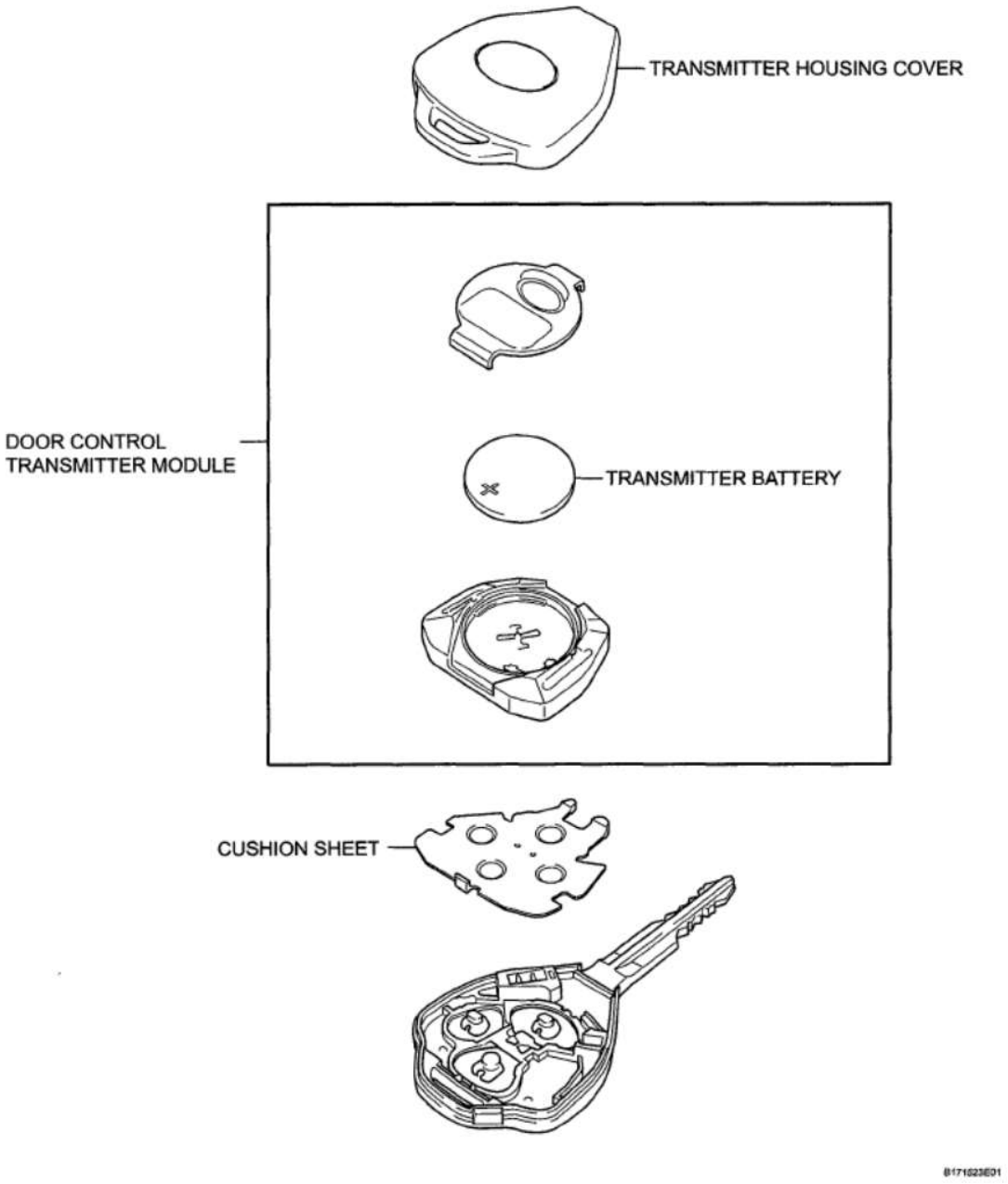


Fig. 71: Identifying Transmitter Battery Components
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REPLACEMENT

1. **REMOVE TRANSMITTER HOUSING COVER**
   a. Using a screwdriver with its tip wrapped in protective tape, pry apart the transmitter housing cover.

NOTE: Do not use excessive force when prying apart the housing cover.

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Fig. 72: Removing Transmitter Housing Cover
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **REMOVE DOOR CONTROL TRANSMITTER MODULE**
   a. Remove the door control transmitter module.

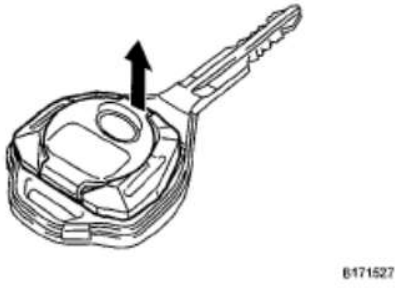


Fig. 73: Removing Door Control Transmitter Module
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **REMOVE TRANSMITTER BATTERY**
   a. Disengage the hook and remove the transmitter battery cover.

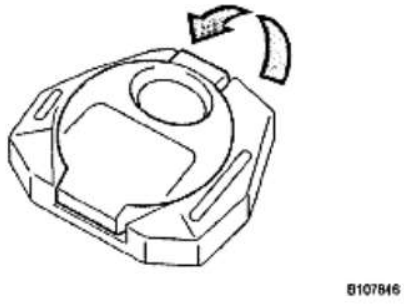


Fig. 74: Removing Transmitter Battery Cover
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   b. Remove the battery (lithium battery).

NOTE:
- **Do not push the terminals with your finger.**

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

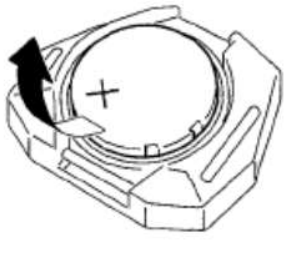


Fig. 75: Removing Battery (Lithium Battery)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. **INSTALL TRANSMITTER BATTERY**
   a. Install a battery (lithium battery) with the positive (+) side up, as shown in the illustration.

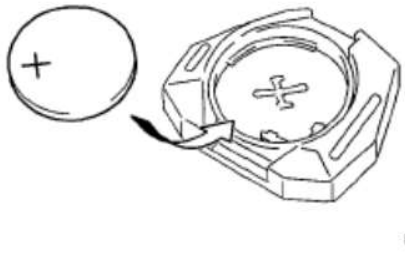


Fig. 76: Installing Battery (Lithium Battery)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NOTE:

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

   b. Engage the hook and install the transmitter battery cover.

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Fig. 77: Installing Transmitter Battery Cover
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. **INSTALL DOOR CONTROL TRANSMITTER MODULE**
   a. Install the door control transmitter module.

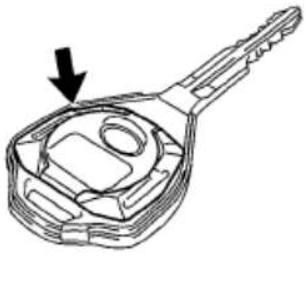


Fig. 78: Installing Door Control Transmitter Module
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. **INSTALL TRANSMITTER HOUSING COVER**
   a. Install the transmitter housing cover onto the transmitter housing case securely.

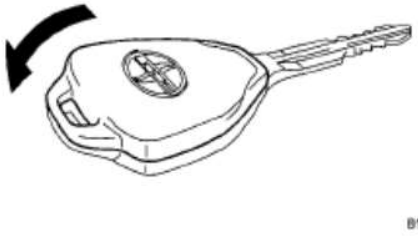


Fig. 79: Installing Transmitter Housing Cover
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   b. After the installation, press any of the transmitter switches. Check that the LED illuminates.

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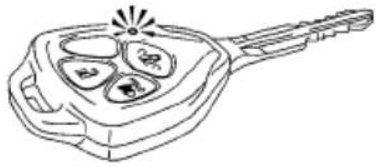


Fig. 80: Checking LED Illumination
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

DOOR CONTROL TRANSMITTER

COMPONENTS

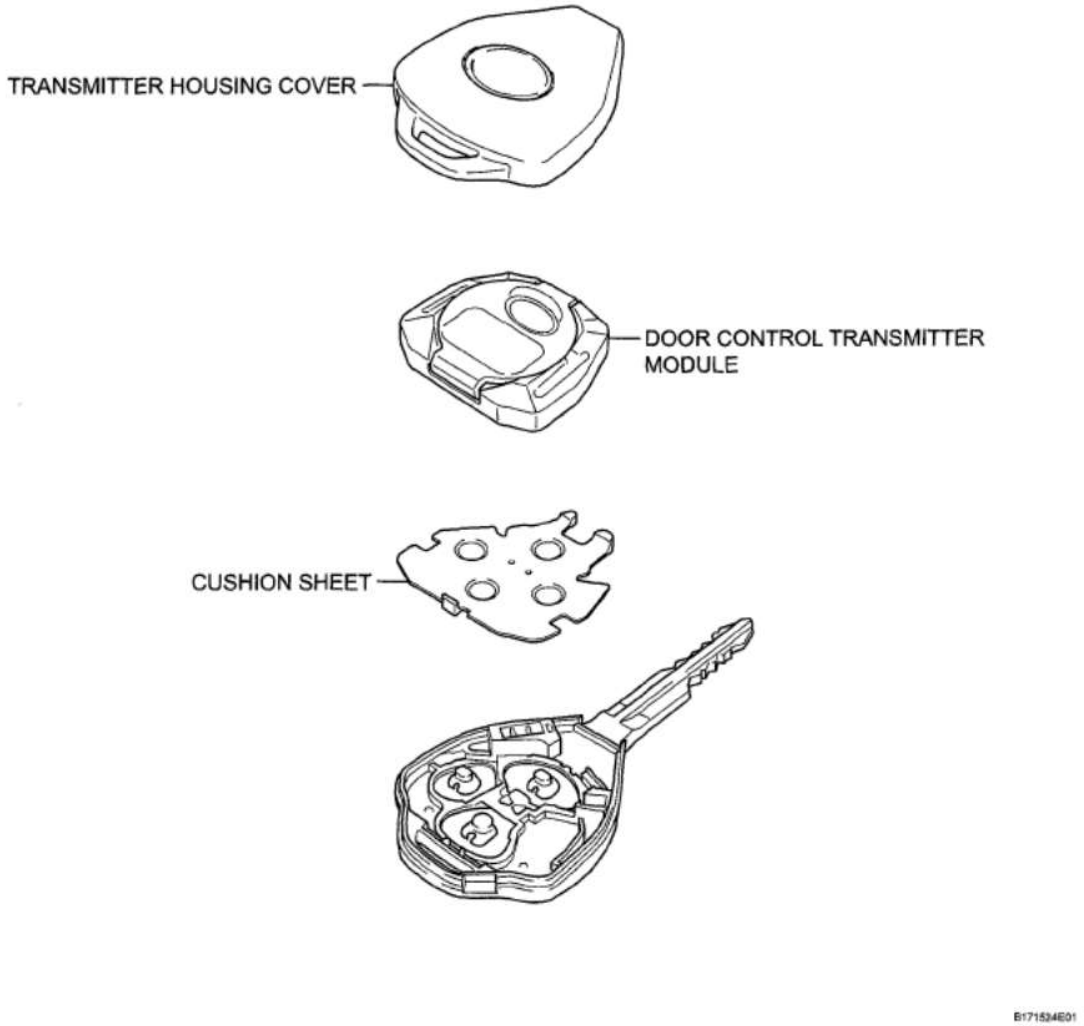


Fig. 81: Identifying Door Control Transmitter Components
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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REMOVAL

NOTE: Special caution should be taken when handling precision electronic components.

1. **REMOVE TRANSMITTER HOUSING COVER**
   a. Using a screwdriver with its tip wrapped in protective tape, pry apart the transmitter housing cover.

NOTE: Do not use excessive force when prying apart the housing cover.

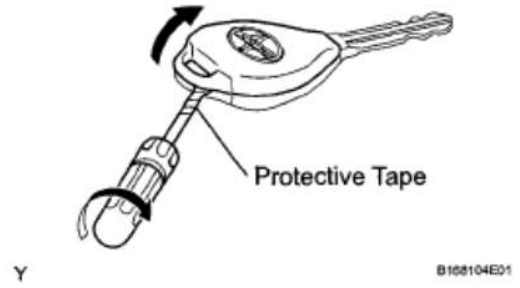


Fig. 82: Removing Transmitter Housing Cover
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **REMOVE DOOR CONTROL TRANSMITTER MODULE**
   a. Remove the door control transmitter module.

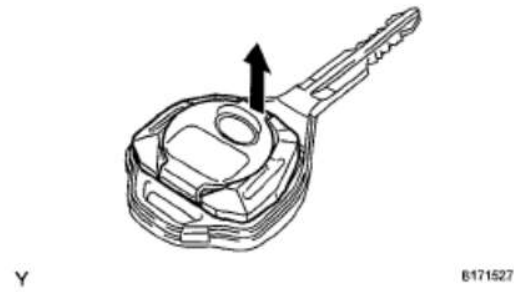


Fig. 83: Removing Door Control Transmitter Module
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. **INSPECT DOOR CONTROL TRANSMITTER**
   a. Inspect 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

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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 (3.28 ft.) away from the driver door outside handle, point the transmitter at the vehicle and check the operation of the transmitter by pressing the transmitter switches on the transmitter body.

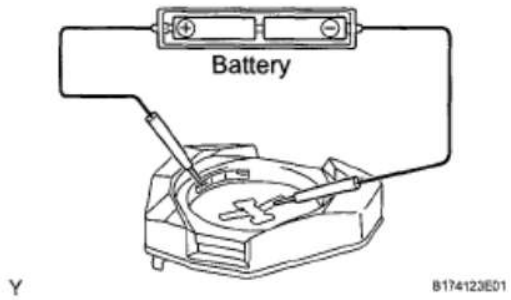


Fig. 84: Checking Operation Of Door Control Transmitter
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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

The LED illuminates when each switch is pressed.

HINT:

- The minimum 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 strong electric waves occur in the area.

5. Install the battery (lithium battery).

b. Inspect the battery charge.

HINT:

- The charge of the battery can be checked only when the battery is installed in the transmitter. If a lithium battery used in the transmitter is tested when it is not installed in the transmitter, a voltage of more than 2.5 V will be shown on the tester until the battery power is completely consumed. Therefore, it is necessary to measure the voltage with the battery installed in the transmitter (a resistance of 1.2 kohms 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.

1. Remove the battery (lithium battery) from the transmitter.
2. Connect the lead to the negative (-) terminal of the transmitter and install the battery.

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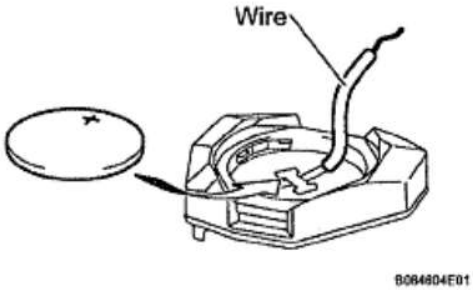


Fig. 85: Connecting Lead To Negative Terminal Of Transmitter
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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 the same or another transmitter switch again and check the voltage.

   Standard voltage: 2.2 V or higher

   HINT:

   - If the temperature of the battery is low, the measurement cannot be performed accurately. 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 minimum 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 (the voltage when no resistance is 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.
6. Remove the lead.
7. Set the battery (lithium battery) in the transmitter.

INSTALLATION

1. **INSTALL DOOR CONTROL TRANSMITTER MODULE**
   a. Install the door control transmitter module.

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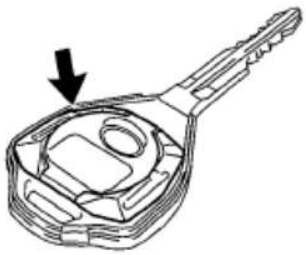


Fig. 86: Installing Door Control Transmitter Module
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL TRANSMITTER HOUSING COVER**
   a. Install the transmitter housing cover onto the transmitter housing case securely.

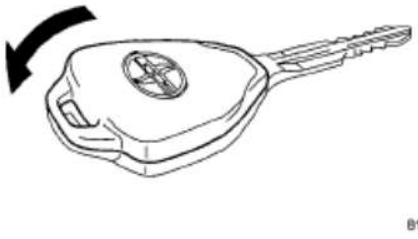


Fig. 87: Installing Transmitter Housing Cover
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

DOOR CONTROL SWITCH

COMPONENTS

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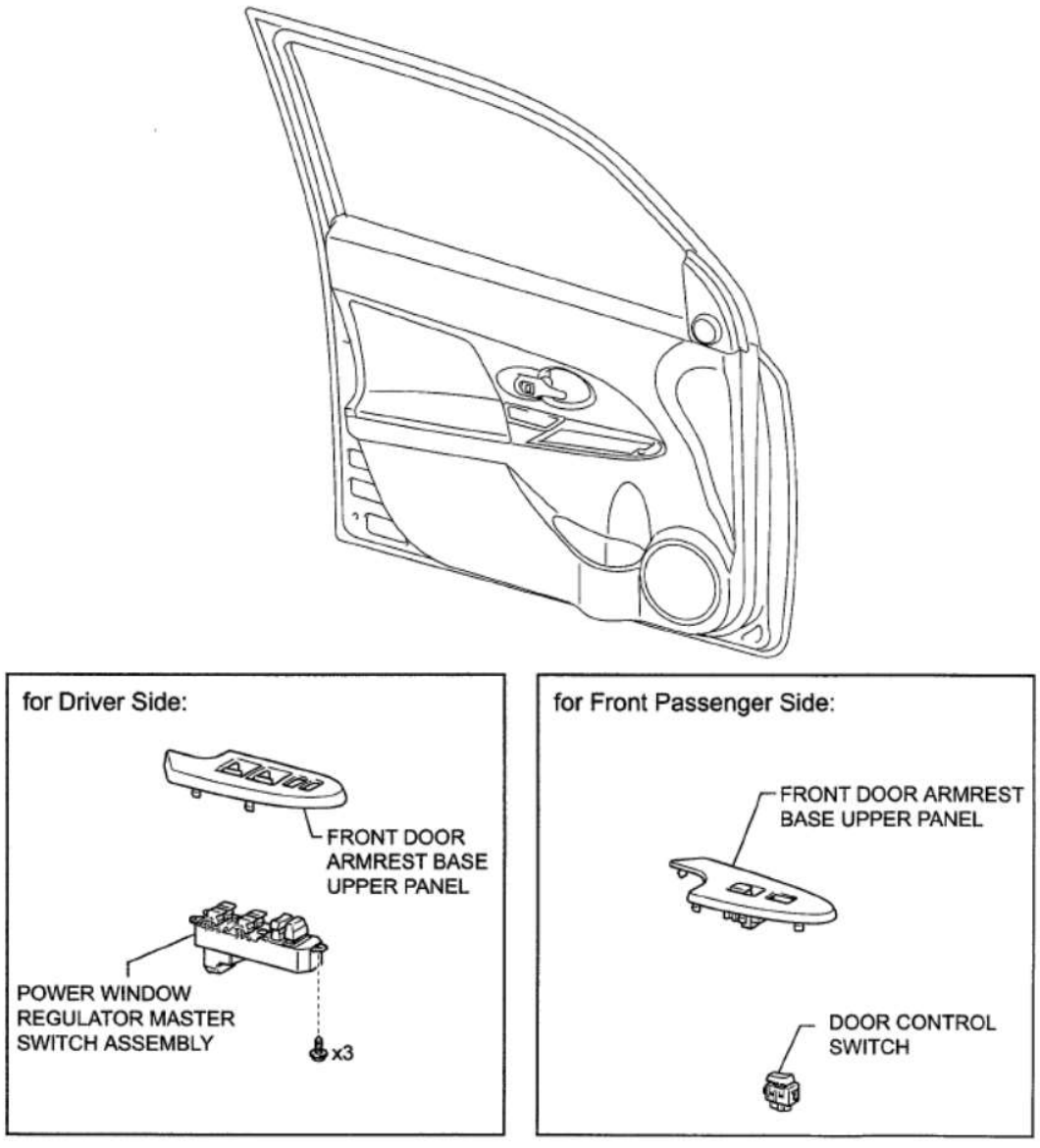


Fig. 88: Identifying Door Control Switch Components
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE FRONT DOOR ARMREST BASE UPPER PANEL** (See **DISASSEMBLY**)
2. **REMOVE POWER WINDOW REGULATOR MASTER SWITCH ASSEMBLY (for Driver Side)**
   a. Remove the 3 screws and the power window regulator master switch assembly.

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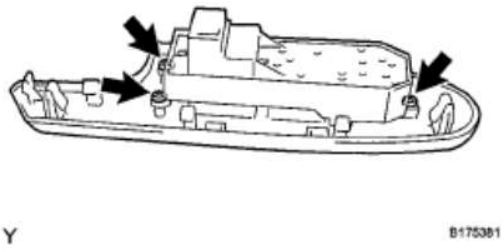


Fig. 89: Locating Power Window Regulator Master Switch Screws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **REMOVE DOOR CONTROL SWITCH (for Front Passenger Side)**
   a. Using a screwdriver with its tip wrapped in protective tape, disengage the 2 claws and remove the door control switch.

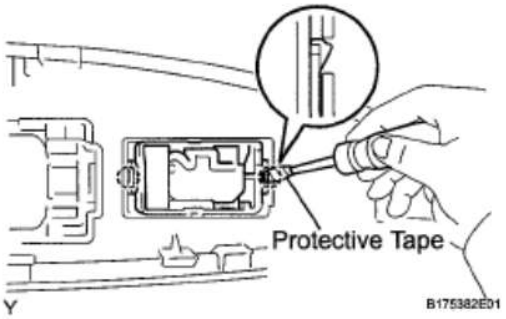


Fig. 90: Disengaging Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. **INSPECT POWER WINDOW REGULATOR MASTER SWITCH ASSEMBLY (for Driver Side)**
   a. Check the resistance of the door control switch.
      1. Measure the resistance according to the value(s) in the table below.

Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Switch Condition	Specified Condition
1 (E) - 2 (LOCK)	LOCK	Below 1 ohms
1 (E) - 2 (LOCK)	OFF	10 kohms or higher
1 (E) - 9 (UNLOCK)	OFF	10 kohms or higher
1 (E) - 9 (UNLOCK)	UNLOCK	Below 1 ohms

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

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Component without harness connected:
(Power Window Regulator Master Switch)

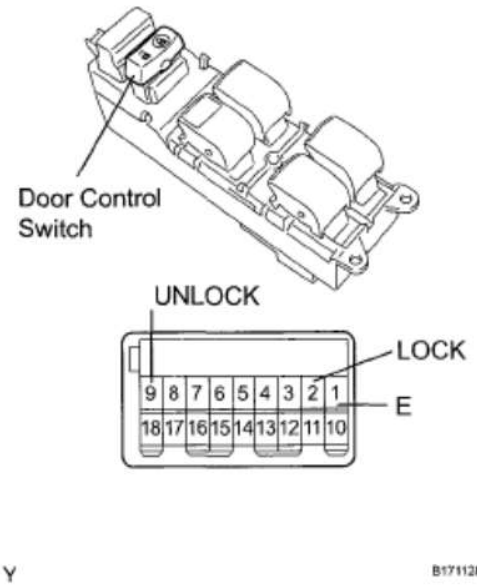


Fig. 91: Identifying Power Window Regulator Master Switch Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSPECT DOOR CONTROL SWITCH (for Front Passenger Side)**
   a. Check the resistance of the door control switch.
      1. Measure the resistance according to the value(s) in the table below.

Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Switch Condition	Specified Condition
3 (L) - 4 (E)	LOCK	Below 1 ohms
3 (L) - 4 (E)	OFF	10 kohms or higher
2 (UL) - 4 (E)	OFF	10 kohms or higher
2 (UL) - 4 (E)	UNLOCK	Below 1 ohms

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

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Component without harness connected:
(Door Control Switch)

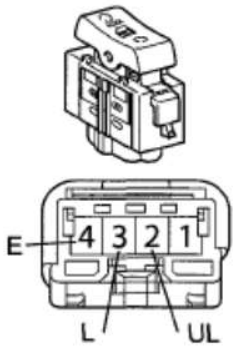


Fig. 92: Identifying Door Control Switch Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION

1. **INSTALL POWER WINDOW REGULATOR MASTER SWITCH ASSEMBLY (for Driver Side)**
   a. Install the power window regulator master switch assembly with the 3 screws.

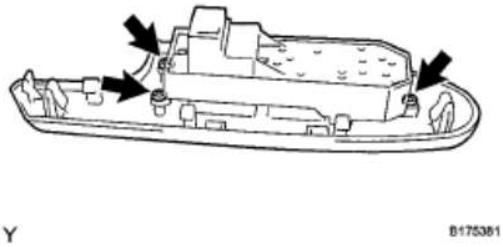


Fig. 93: Locating Power Window Regulator Master Switch Screws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL DOOR CONTROL SWITCH (for Front Passenger Side)**
   a. Engage the 2 claws and install the door control switch.

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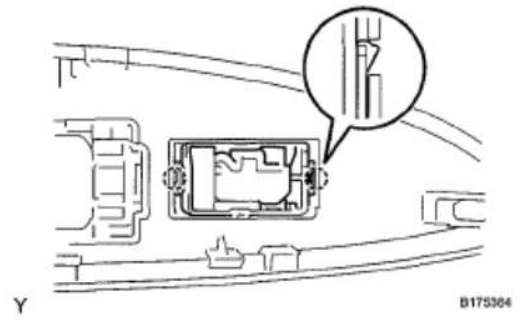


Fig. 94: Identifying Door Control Switch Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **INSTALL FRONT DOOR ARMREST BASE UPPER PANEL** (See **REASSEMBLY**)

UNLOCK WARNING SWITCH

COMPONENTS

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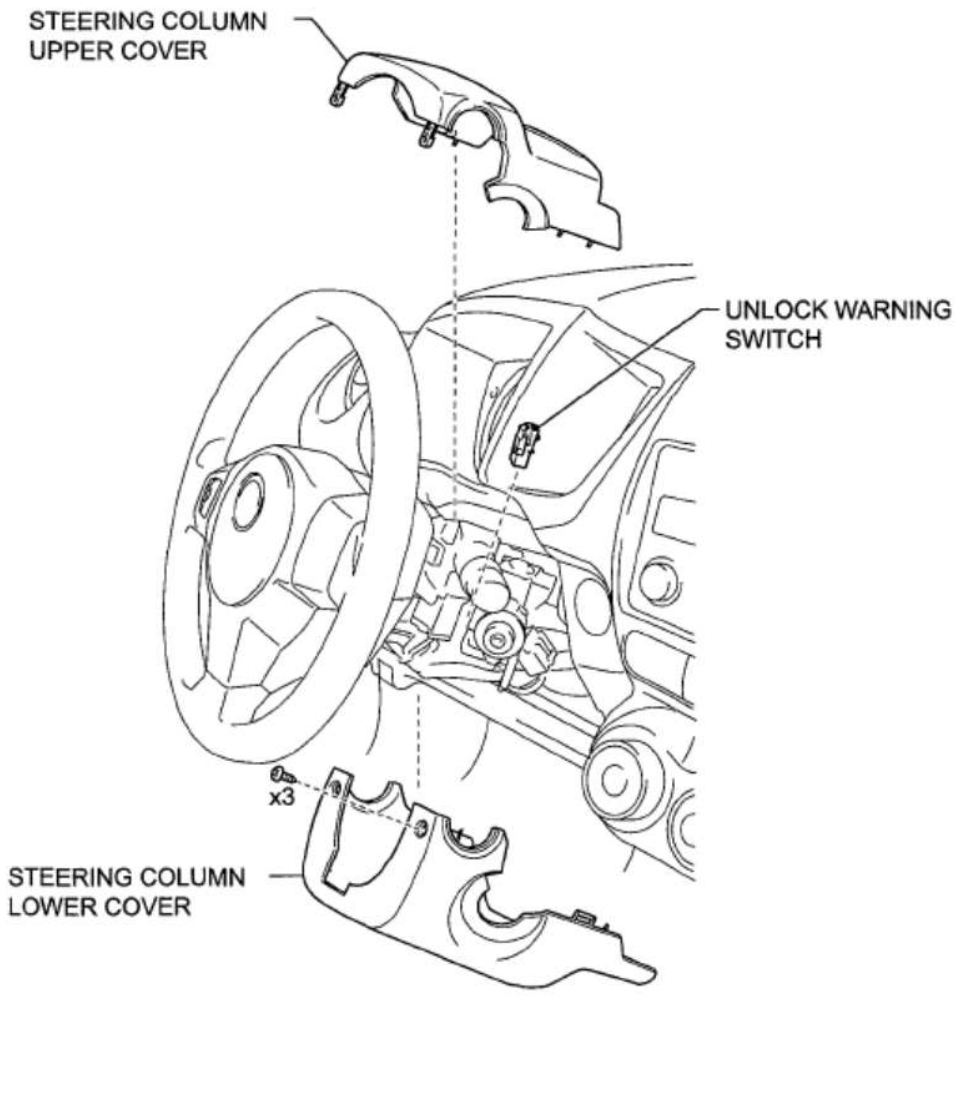


Fig. 95: Identifying Unlock Warning Switch Components
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE STEERING COLUMN LOWER COVER** (See **REMOVAL**)
2. **REMOVE STEERING COLUMN UPPER COVER** (See **REMOVAL**)
3. **REMOVE UNLOCK WARNING SWITCH**
   a. Insert the key into the ignition key cylinder.
   b. Disconnect the connector.
   c. Using a screwdriver with its tip wrapped in protective tape, disengage the 2 claws and remove the unlock warning switch.

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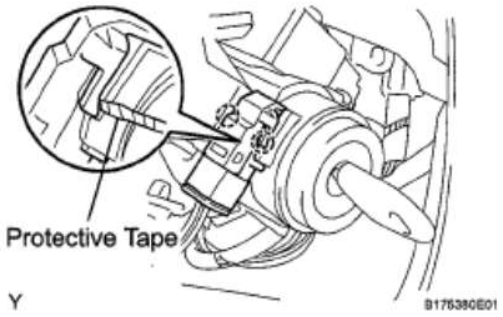


Fig. 96: Disengaging Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. **INSPECT UNLOCK WARNING SWITCH**
   a. Check the resistance.
      1. Measure the resistance according to the value(s) in the table below.

Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Switch Condition	Specified Condition
1 - 2	Pin released (Free)	10 kohms or higher
1 - 2	Pin pushed in	Below 1 ohms

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

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Component without harness connected.
(Unlock Warning Switch)

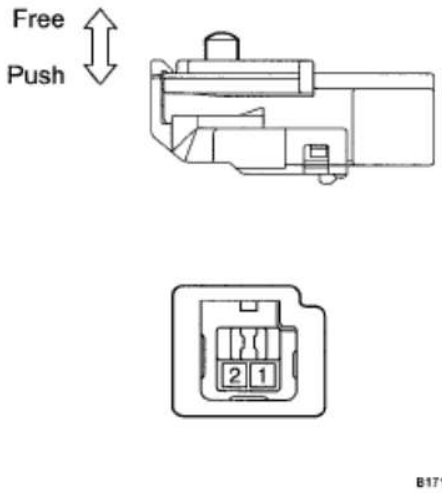


Fig. 97: Inspecting Unlock Warning Switch
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION

1. **INSTALL UNLOCK WARNING SWITCH**
   a. Engage the 2 claws and install the unlock warning switch.

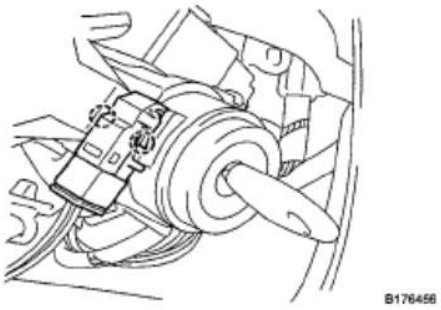


Fig. 98: Identifying Unlock Warning Switch Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   b. Connect the connector.
2. **INSTALL STEERING COLUMN UPPER COVER** (See **INSTALLATION**)
3. **INSTALL STEERING COLUMN LOWER COVER** (See **INSTALLATION**)

FRONT DOOR LOCK

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COMPONENTS

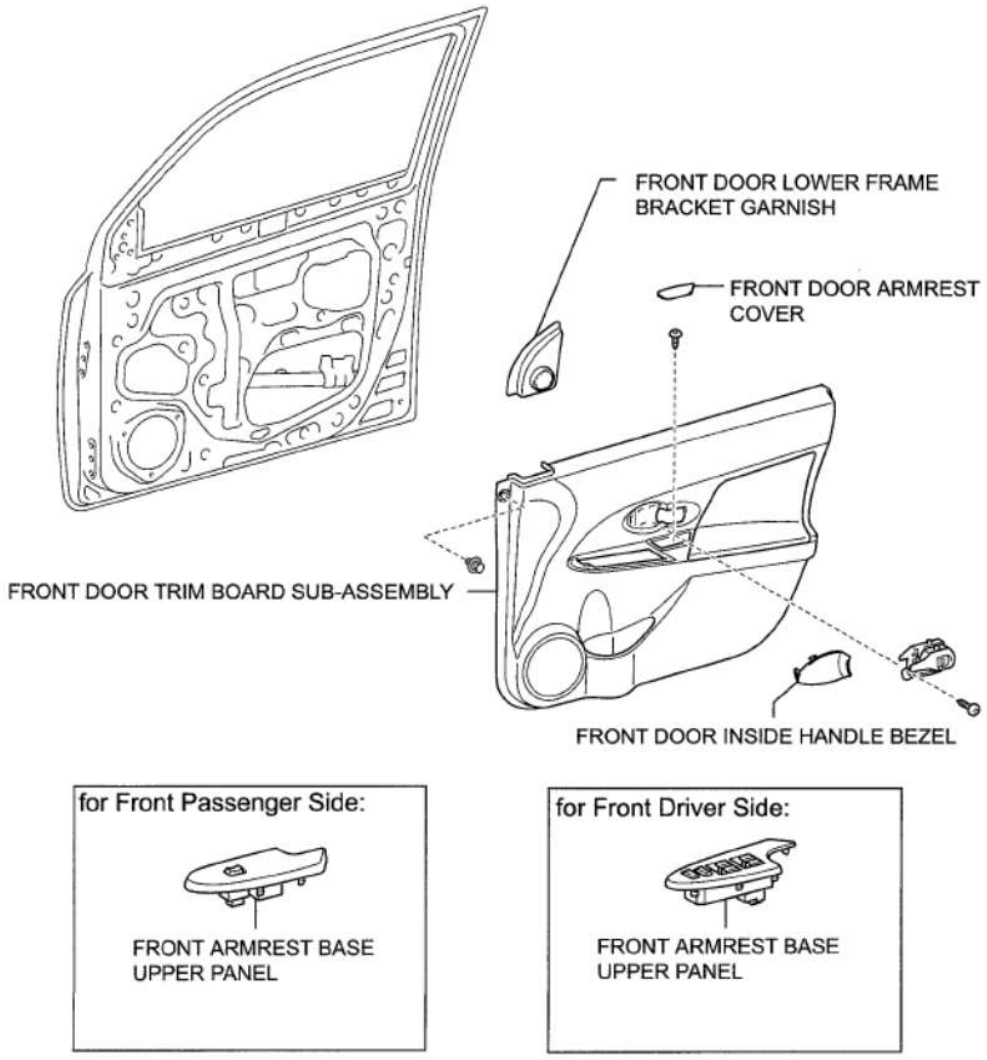


Fig. 99: Identifying Front Door Lock Components (1 Of 3)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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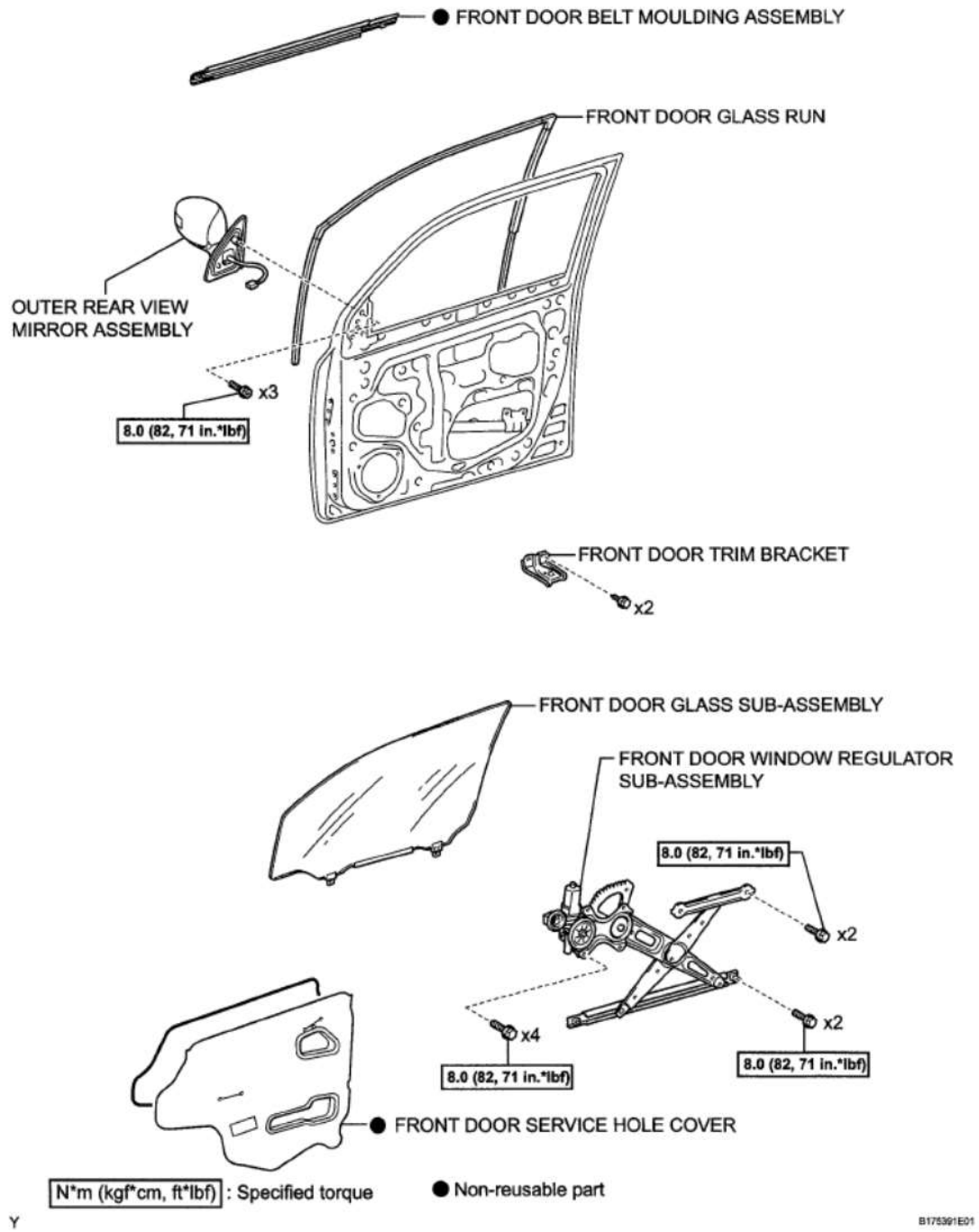


Fig. 100: Identifying Front Door Lock Components With Torque Specifications (2 Of 3)
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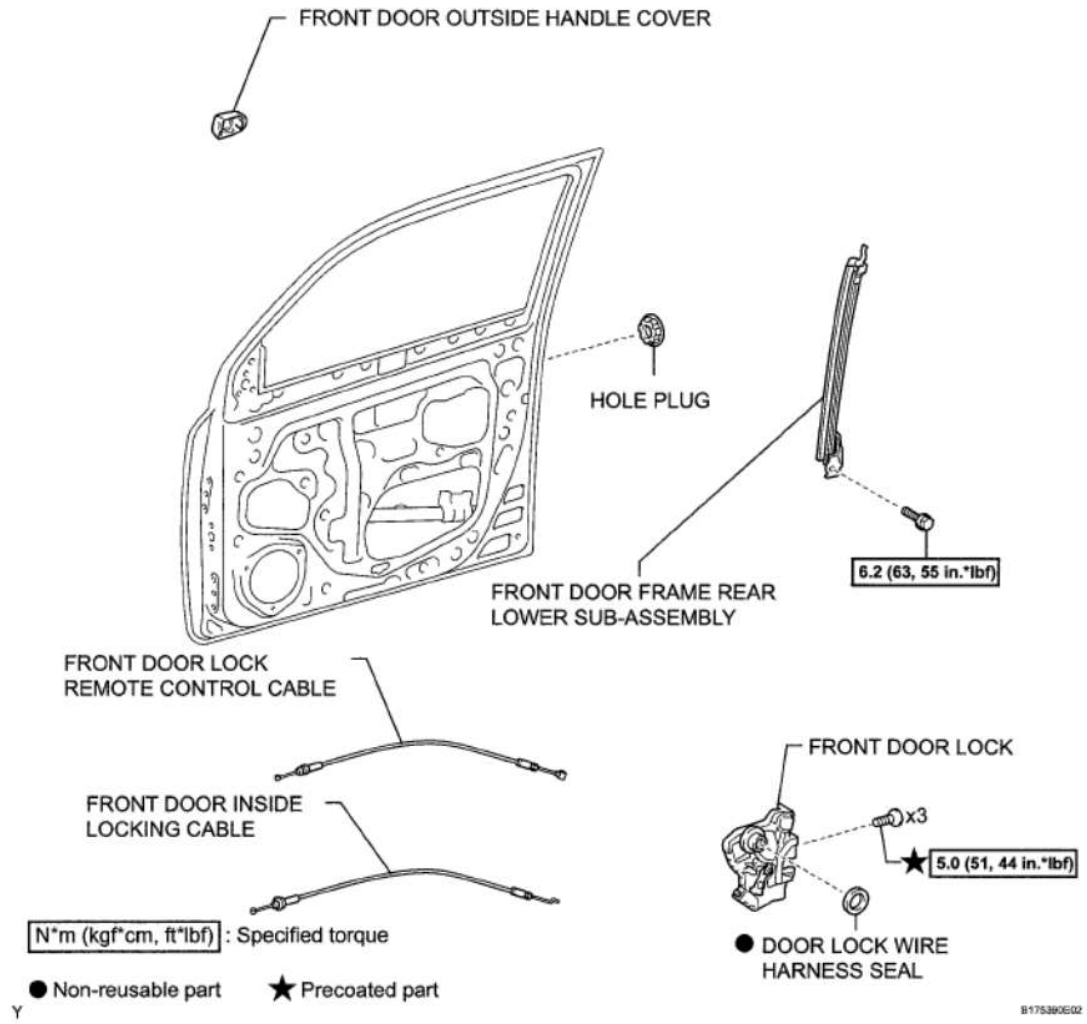


Fig. 101: Identifying Front Door Lock Components With Torque Specifications (3 Of 3)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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 **DISASSEMBLY**)
3. **REMOVE FRONT DOOR LOWER FRAME BRACKET GARNISH** (See **DISASSEMBLY**)
4. **REMOVE FRONT DOOR INSIDE HANDLE BEZEL** (See **DISASSEMBLY**)
5. **REMOVE FRONT DOOR TRIM BOARD SUB-ASSEMBLY** (See **DISASSEMBLY**)
6. **REMOVE OUTER REAR VIEW MIRROR ASSEMBLY** (See **REMOVAL**)

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7. **REMOVE FRONT DOOR BELT MOLDING ASSEMBLY** (See **REMOVAL**)
8. **REMOVE FRONT DOOR TRIM BRACKET** (See **DISASSEMBLY**)
9. **REMOVE FRONT DOOR SERVICE HOLE COVER** (See **DISASSEMBLY**)
10. **REMOVE FRONT DOOR GLASS SUB-ASSEMBLY** (See **DISASSEMBLY**)
11. **REMOVE FRONT DOOR GLASS RUN** (See **DISASSEMBLY**)
12. **REMOVE FRONT DOOR WINDOW REGULATOR SUB-ASSEMBLY** (See **DISASSEMBLY**)
13. **REMOVE FRONT DOOR FRAME REAR LOWER SUB-ASSEMBLY** (See **DISASSEMBLY**)
14. **REMOVE FRONT DOOR OUTSIDE HANDLE COVER** (See **DISASSEMBLY**)
15. **REMOVE FRONT DOOR LOCK**
    a. Disconnect the connector.
    b. Using a "TORX" socket wrench T30, remove the 3 screws.

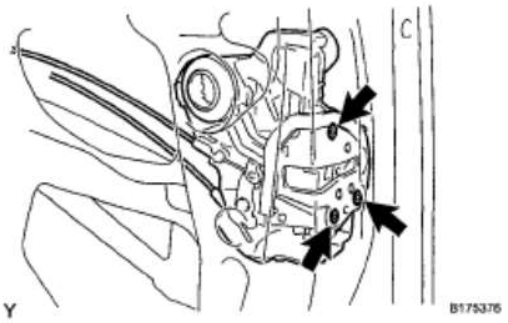


Fig. 102: Locating Front Door Lock Screws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

    c. Slide the front door lock downward, pull out the front door lock open rod from the outside handle frame, and remove the front door lock and cables as a unit.
    d. Remove the front door lock open rod from the front door lock.
    e. Remove the door lock wire harness seal from the front door lock.
    f. Remove the front door lock remote control cable.

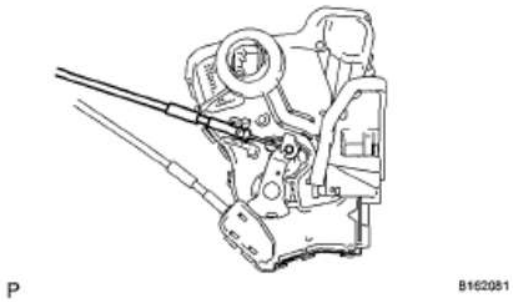


Fig. 103: Identifying Front Door Lock Remote Control Cable
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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g. Using a screwdriver with its tip wrapped in protective tape, disengage the 3 claws and open the cover.

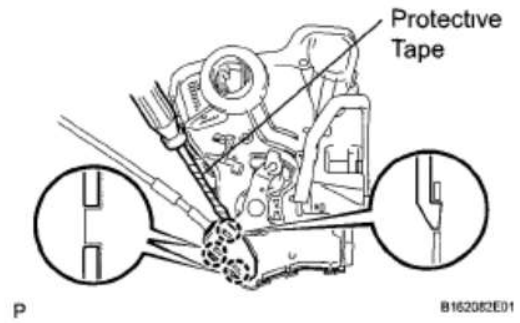


Fig. 104: Disengaging Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

h. Remove the front door inside locking cable.

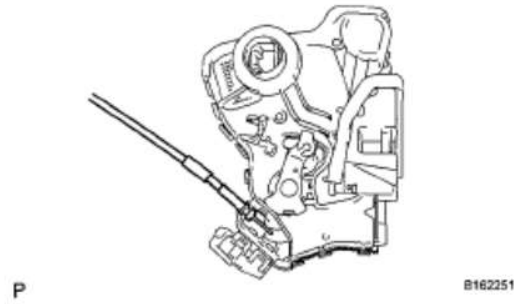


Fig. 105: Identifying Front Door Inside Locking Cable
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. **INSPECT FRONT DOOR LOCK LH**
   a. Check the operation.
      1. Connect the positive (+) lead from the battery to terminal 4 (L) and the negative (-) lead to terminal 1 (UL), then check that the lock locks.

         OK: Locks

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

      2. Connect the positive (+) lead from the battery to terminal 1 (UL) and the negative (-) lead to terminal 4 (L), then check that the lock unlocks.

         OK: Unlocks

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

b. Check the resistance of the unlock detection switch.
   1. Measure the resistance according to the value(s) in the table below.

Component without harness connected:
(Front Door Lock LH)

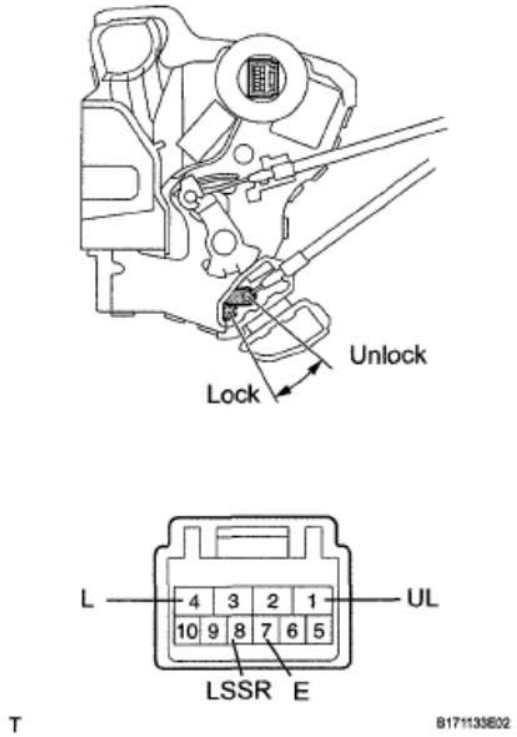


Fig. 106: Inspecting Front Door Lock LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
7 (E) - 8 (LSSR)	Locked	10 kohms or higher
7 (E) - 8 (LSSR)	Unlocked	Below 1 ohms

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

c. Check the resistance of the door lock and unlock switch.
   1. Measure the resistance according to the value(s) in the table below.

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Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
7 (E) - 9 (L)	Locked	Below 1 ohms
7 (E) - 9 (L)	Unlocked	10 kohms or higher
7 (E) - 10 (UL)	Locked	10 kohms or higher
7 (E) - 10 (UL)	Unlocked	Below 1 ohms

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

Component without harness connected:
(Front Door Lock LH)

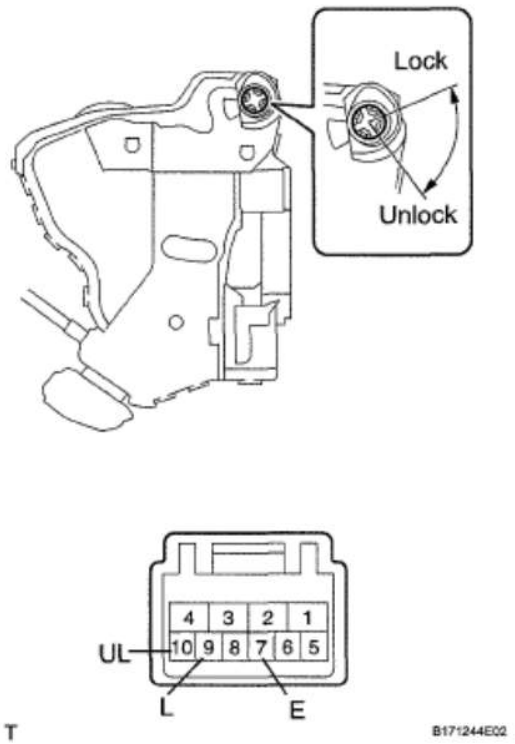


Fig. 107: Inspecting Front Door Lock LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSPECT FRONT DOOR LOCK RH**
   a. Check the operation.
      1. Connect the positive (+) lead from the battery to terminal 4 (L) and the negative (-) lead to terminal 1(UL), then check that the lock locks.

OK: Locks

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

2. Connect the positive (+) lead from the battery to terminal 1 (UL) and the negative (-) lead to terminal 4 (L), then check that the lock unlocks.

OK: Unlocks

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

b. Check the resistance of the unlock detection switch.

Component without harness connected:
(Front Door Lock RH)

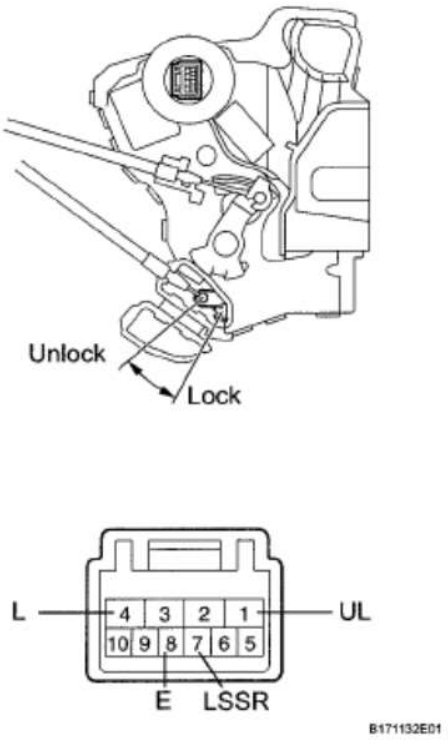


Fig. 108: Inspecting Front Door Lock RH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

1. Measure the resistance according to the value(s) in the table below.

Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
7 (LSSR) - 8 (E)	Lock	10 kohms or higher

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7 (LSSR) - 8 (E)	Unlock	Below 1 ohms

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

c. Check the resistance of the door lock and unlock switch.
   1. Measure the resistance according to the value(s) in the table below.

Component without harness connected:
(Front Door Lock RH)

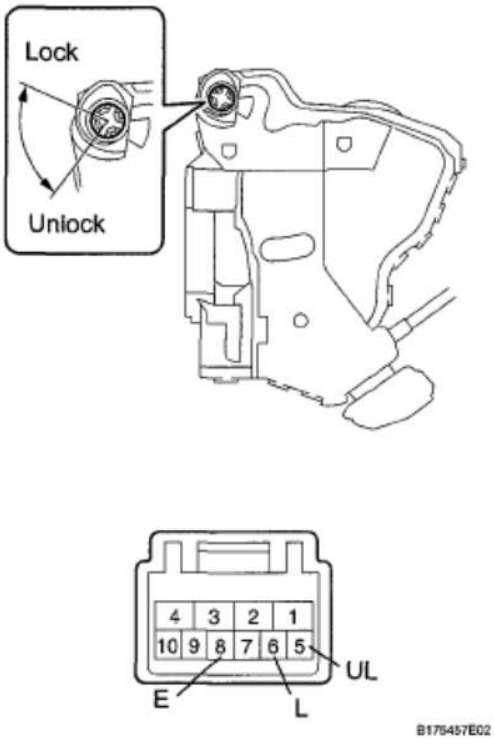


Fig. 109: Inspecting Front Door Lock RH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
8 (E) - 6 (L)	Locked	Below 1 ohms
8 (E) - 6 (L)	Unlocked	10 kohms or higher
8 (E) - 5 (UL)	Locked	10 kohms or higher
8 (E) - 5 (UL)	Unlocked	Below 1 ohms

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

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INSTALLATION

1. **INSTALL FRONT DOOR LOCK**

NOTE:

- **If reusing a door lock that has been removed, replace the packing in the connecting part with a new packing.**
- **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. Install the front door inside locking cable.

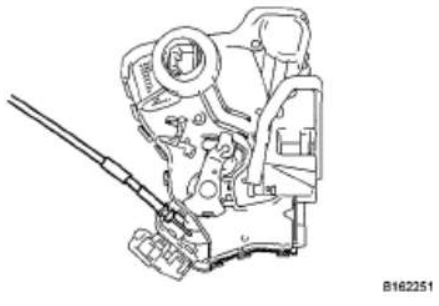


Fig. 110: Identifying Front Door Inside Locking Cable
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Engage the 3 claws and close the cover.

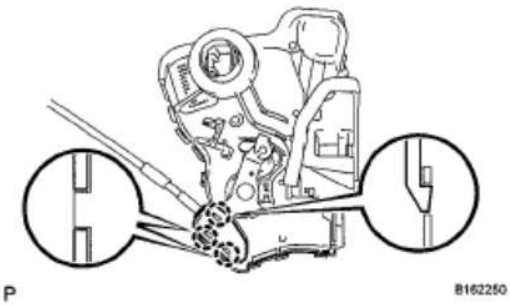


Fig. 111: Identifying Claws
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d. Install the front door lock remote control cable.

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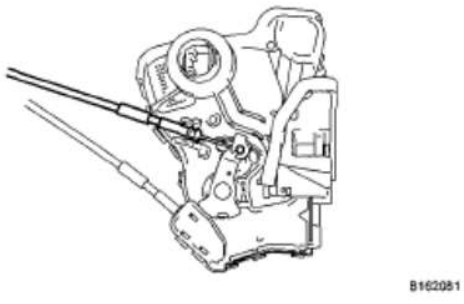


Fig. 112: Identifying Front Door Lock Remote Control Cable
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

e. Install a new door lock wire harness seal on to the front door lock.
f. Insert the front door lock open rod into the front door lock, and set it to the front door outside handle frame.
g. Make sure that the front door lock open rod is securely connected to the front door lock.
h. Apply adhesive to the threads of the screws.

Adhesive: Toyota Genuine Adhesive 1324, Three Bond 1324 or equivalent

i. Using a "TORX" socket wrench T30, install the front door lock with the 3 screws.

Torque: 5.0 N*m (51 kgf*cm, 44 in.*lbf)

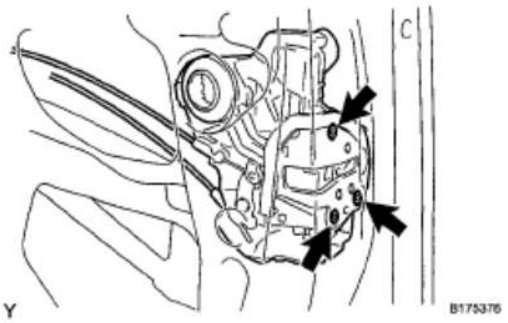


Fig. 113: Locating Front Door Lock Screws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

j. Connect the connector.

2. **INSTALL FRONT DOOR OUTSIDE HANDLE COVER** (See **REASSEMBLY**)
3. **INSTALL FRONT DOOR FRAME REAR LOWER SUB-ASSEMBLY** (See **REASSEMBLY**)
4. **INSTALL FRONT DOOR WINDOW REGULATOR SUB-ASSEMBLY** (See **REASSEMBLY**)
5. **INSTALL FRONT DOOR GLASS RUN** (See **REASSEMBLY**)
6. **INSTALL FRONT DOOR GLASS SUB-ASSEMBLY** (See **REASSEMBLY**)
7. **INSTALL FRONT DOOR SERVICE HOLE COVER** (See **REASSEMBLY**)

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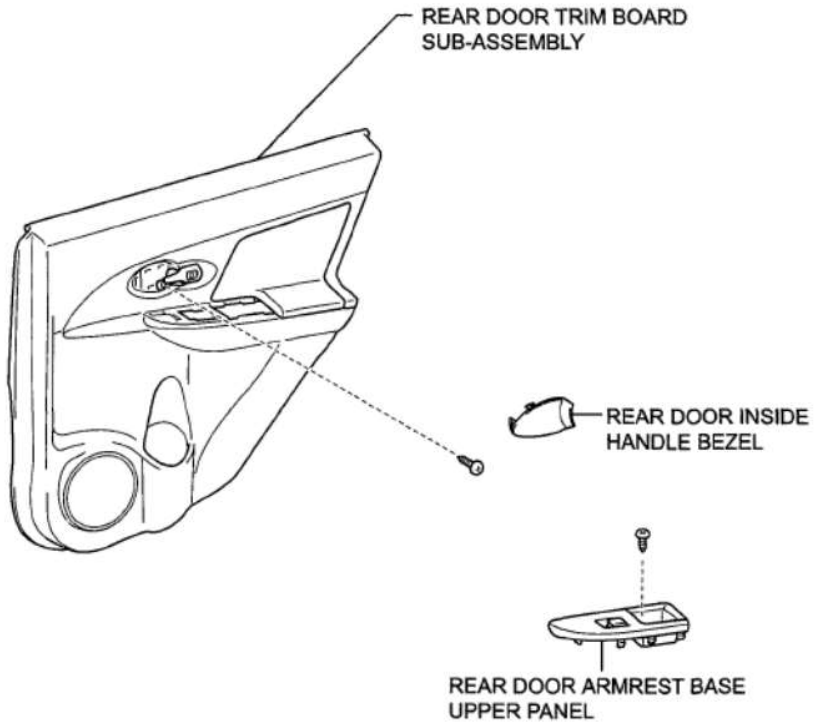
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8. **INSTALL FRONT DOOR TRIM BRACKET** (See **REASSEMBLY**)
9. **INSTALL FRONT DOOR BELT MOLDING ASSEMBLY** (See **INSTALLATION**)
10. **INSTALL OUTER REAR VIEW MIRROR ASSEMBLY** (See **INSTALLATION**)
11. **INSTALL FRONT DOOR TRIM BOARD SUB-ASSEMBLY** (See **REASSEMBLY**)
12. **INSTALL FRONT DOOR INSIDE HANDLE BEZEL** (See **REASSEMBLY**)
13. **INSTALL FRONT DOOR LOWER FRAME BRACKET GARNISH** (See **REASSEMBLY**)
14. **INSTALL FRONT ARMREST BASE UPPER PANEL** (See **REASSEMBLY**)
15. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**

Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)

REAR DOOR LOCK

COMPONENTS



Y B175396E01

Fig. 114: Identifying Rear Door Lock Components (1 Of 3)
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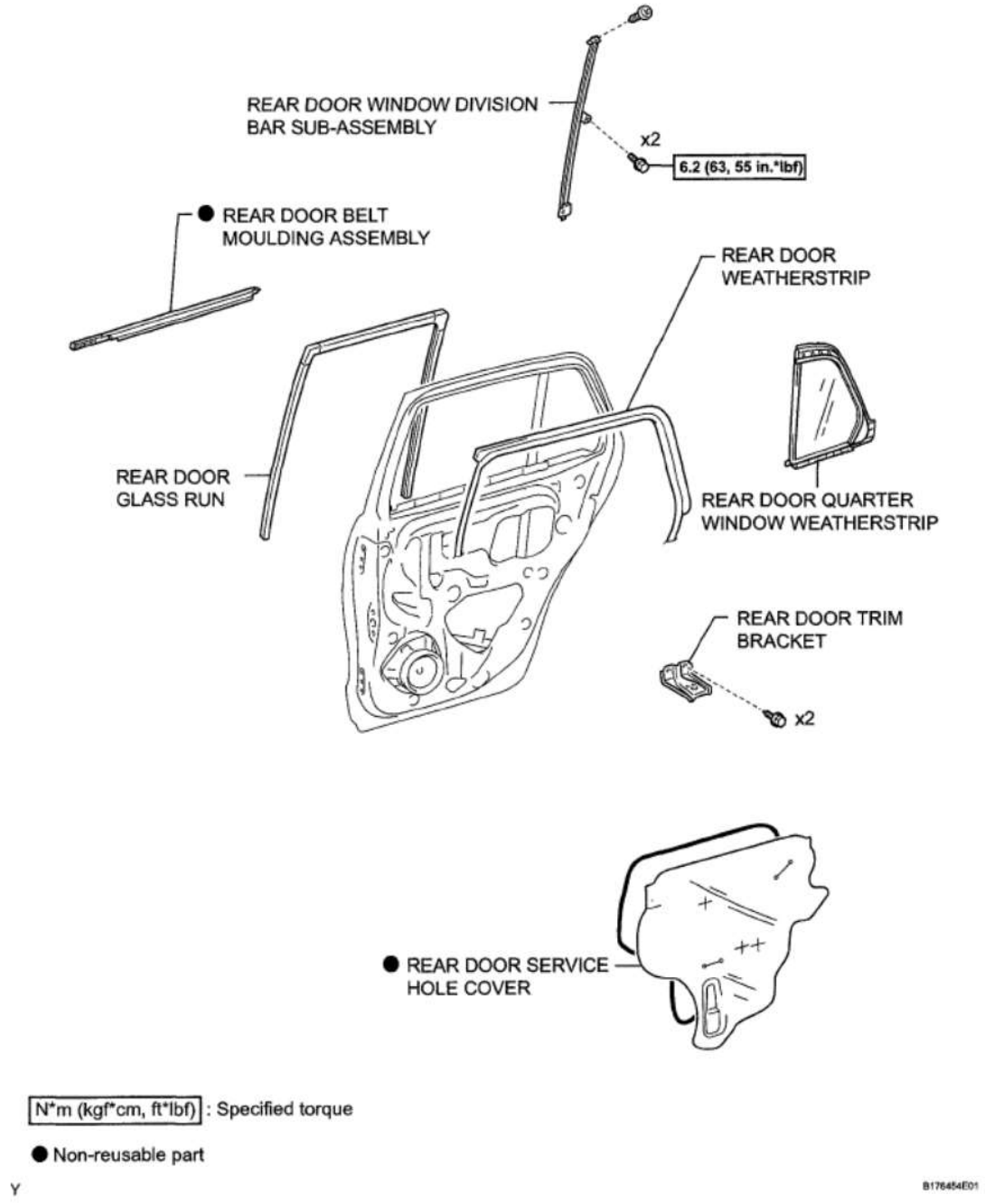


Fig. 115: Identifying Rear Door Lock Components With Torque Specification (2 Of 3)
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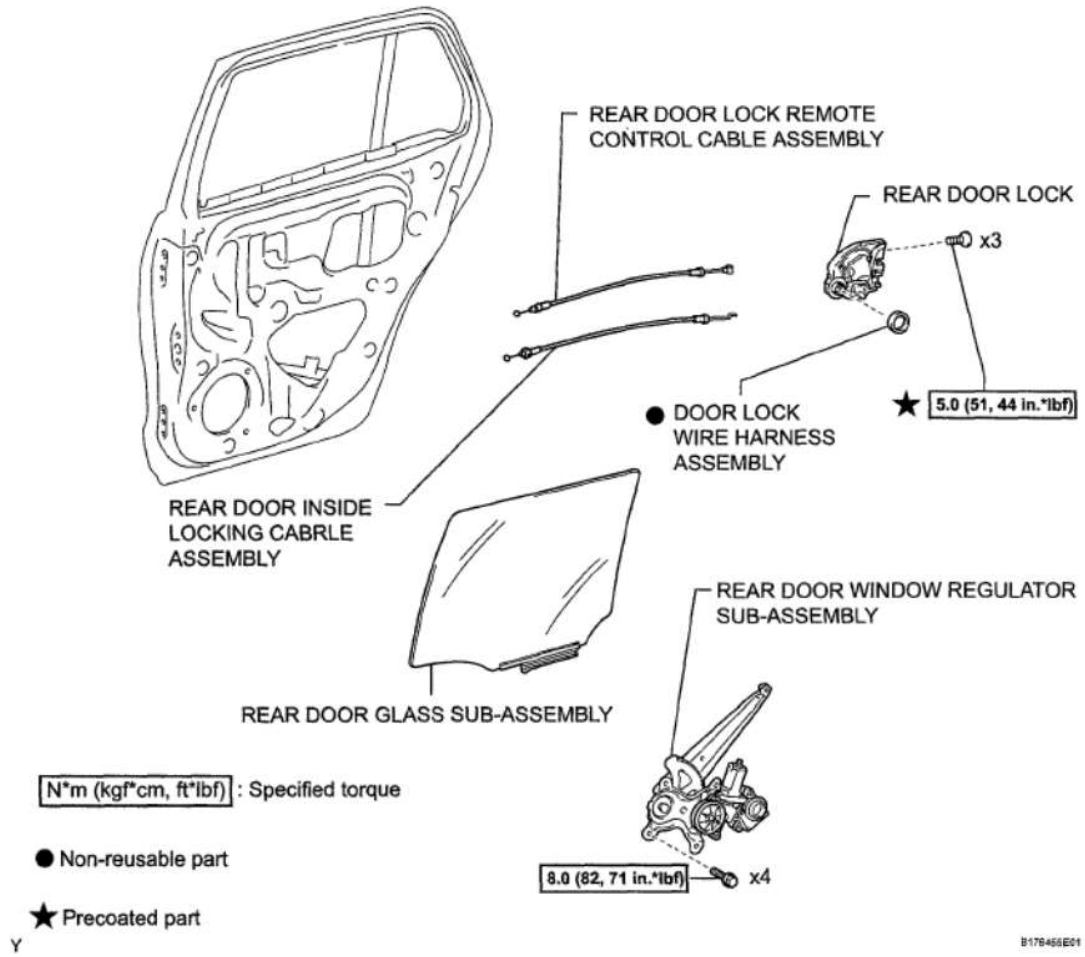


Fig. 116: Identifying Rear Door Lock Components With Torque Specifications (3 Of 3)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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 REAR DOOR ARMREST BASE UPPER PANEL** (See **DISASSEMBLY**)
3. **REMOVE REAR DOOR INSIDE HANDLE BEZEL** (See **DISASSEMBLY**)
4. **REMOVE REAR DOOR TRIM BOARD SUB-ASSEMBLY** (See **DISASSEMBLY**)
5. **REMOVE REAR DOOR TRIM BRACKET** (See **DISASSEMBLY**)
6. **REMOVE REAR DOOR SERVICE HOLE COVER** (See **DISASSEMBLY**)
7. **SEPARATE REAR DOOR WEATHERSTRIP** (See **DISASSEMBLY**)

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8. **REMOVE REAR DOOR BELT MOLDING ASSEMBLY** (See **REMOVAL**)
9. **REMOVE REAR DOOR GLASS RUN** (See **DISASSEMBLY**)
10. **REMOVE REAR DOOR WINDOW DIVISION BAR SUB-ASSEMBLY** (See **DISASSEMBLY**)
11. **REMOVE REAR DOOR QUARTER WINDOW WEATHERSTRIP** (See **DISASSEMBLY**)
12. **REMOVE REAR DOOR GLASS SUB-ASSEMBLY** (See **DISASSEMBLY**)
13. **REMOVE REAR DOOR WINDOW REGULATOR SUB-ASSEMBLY** (See **DISASSEMBLY**)
14. **REMOVE REAR DOOR LOCK**
    a. Using a "TORX" socket wrench T30, remove the 3 screws.

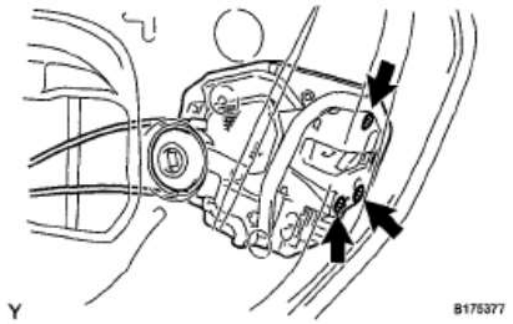


Fig. 117: Locating Rear Door Lock Screws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

    b. Move the rear door lock downward and pull the release plate out of the rear door outside handle frame.
    c. Remove the door lock wire harness seal from the rear door lock.
    d. Using a screwdriver with its tip wrapped in protective tape, disengage the claw and open the cover.

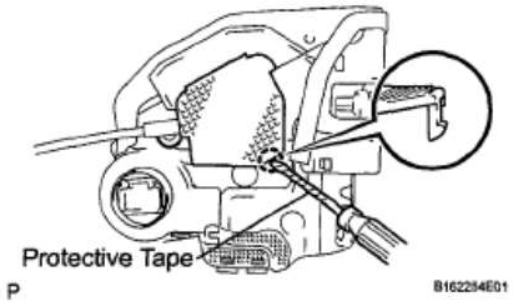


Fig. 118: Disengaging Claw
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

    e. Remove the rear door lock remote control cable.

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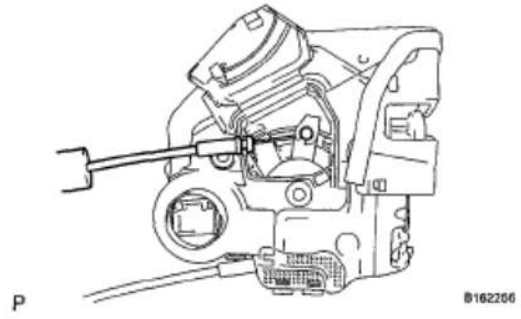


Fig. 119: Identifying Rear Door Lock Remote Control Cable
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

f. Using a screwdriver with its tip wrapped in protective tape, disengage the 3 claws and open the cover.

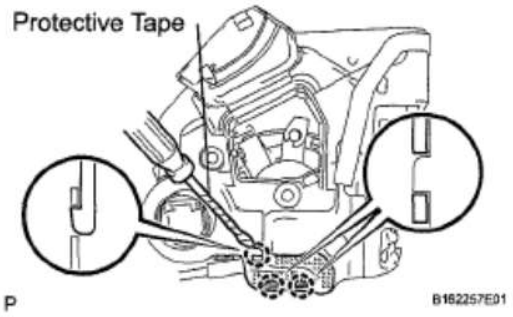


Fig. 120: Disengaging Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

g. Remove the rear door inside locking cable.

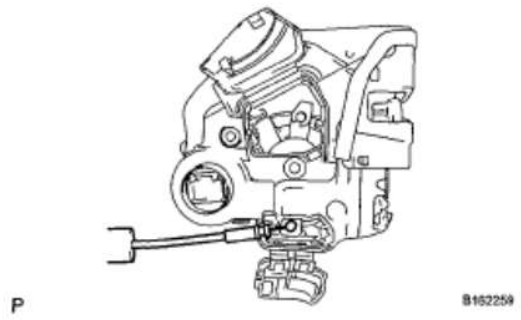


Fig. 121: Identifying Rear Door Inside Locking Cable
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. **INSPECT REAR DOOR LOCK LH**

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a. Check the operation.

1. Connect the positive (+) lead from the battery to terminal 4 (L) and the negative (-) lead to terminal 1 (UL), then check that the lock locks.

OK: Locks

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

Component without harness connected:
(Rear Door Lock LH)

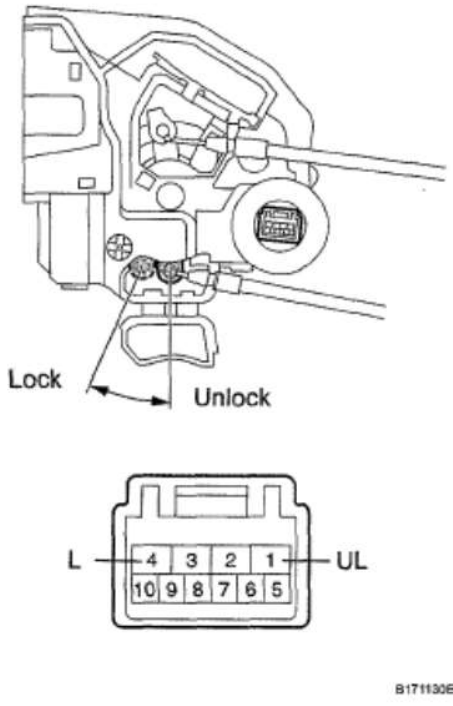


Fig. 122: Inspecting Rear Door Lock LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. Connect the positive (+) lead from the battery to terminal 1 (UL) and the negative (-) lead to terminal 4 (L), then check that the lock unlocks.

OK: Unlocks

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

2. **INSPECT REAR DOOR LOCK RH**

a. Check the operation.

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1. Connect the positive (+) lead from the battery to terminal 4 (L) and the negative (-) lead to terminal 1 (UL), then check that the lock locks.

   OK: Locks

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

Component without harness connected:
(Rear Door Lock RH)

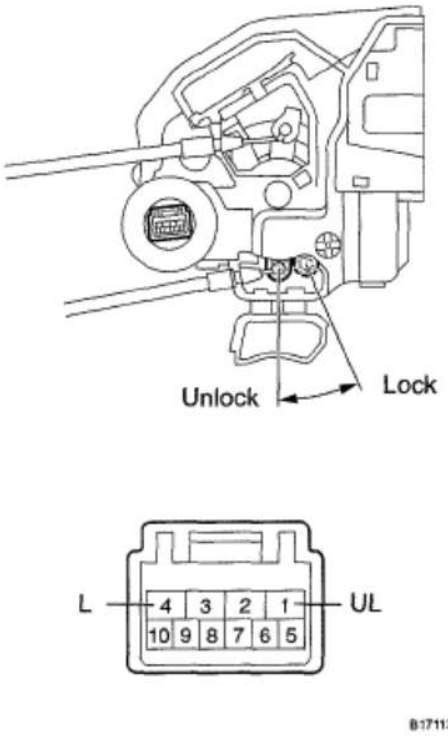


Fig. 123: Inspecting Rear Door Lock RH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. Connect the positive (+) lead from the battery to terminal 1 (UL) and the negative (-) lead to terminal 4 (L), then check that the lock unlocks.

   OK: Unlocks

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

INSTALLATION

1. **INSTALL REAR DOOR LOCK**

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NOTE:

- **If reusing a door lock that has been removed, replace the packing in the connecting part with a new packing.**
- **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. Install the rear door inside locking cable.

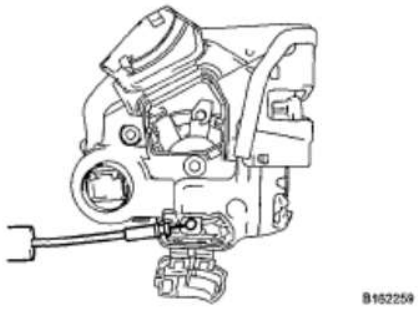


Fig. 124: Identifying Rear Door Inside Locking Cable
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Engage the 3 claws and close the cover.

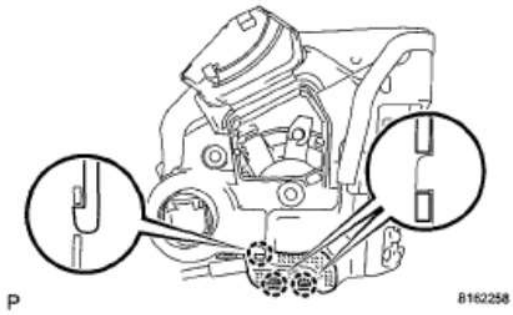


Fig. 125: Identifying Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

d. Install the rear door lock remote control cable.

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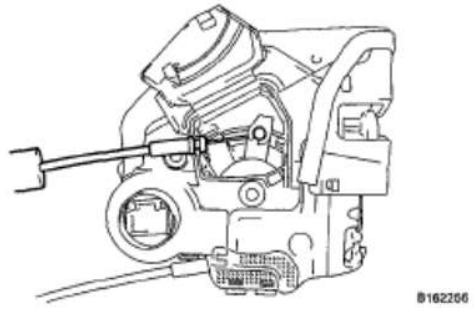


Fig. 126: Identifying Rear Door Lock Remote Control Cable
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

e. Engage the claw and close the cover.

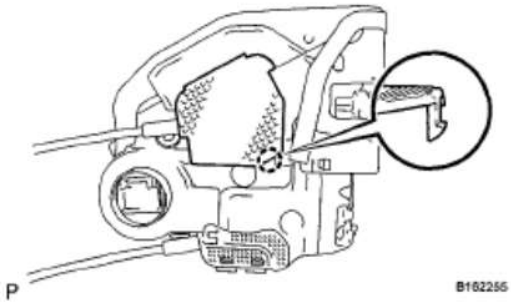
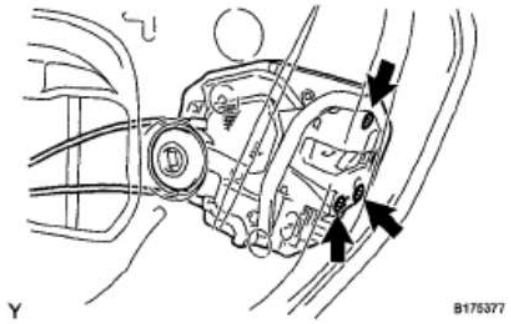


Fig. 127: Identifying Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

f. Install a new door lock wire harness seal on to the rear door lock.
g. Insert the rear door lock into the rear door outside handle release plate, and set it to the rear door panel.
h. Make sure that the rear door outside handle engage with the lock.
i. Apply adhesive to the threads of the screws.

Adhesive: Toyota Genuine Adhesive 1324, Three Bond 1324 or equivalent



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Fig. 128: Locating Rear Door Lock Screws
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j. Using a "TORX" socket wrench T30, install the rear door lock with the 3 screws.

Torque: 5.0 N*m (51 kgf*cm, 44 in.*lbf)

k. Connect the connector.

2. **INSTALL REAR DOOR WINDOW REGULATOR SUB-ASSEMBLY** (See **REASSEMBLY**)
3. **INSTALL REAR DOOR GLASS SUB-ASSEMBLY** (See **REASSEMBLY**)
4. **INSTALL REAR DOOR QUARTER WINDOW WEATHERSTRIP** (See **REASSEMBLY**)
5. **INSTALL REAR DOOR WINDOW DIVISION BAR SUB-ASSEMBLY** (See **REASSEMBLY**)
6. **INSTALL REAR DOOR GLASS RUN** (See **REASSEMBLY**)
7. **INSTALL REAR DOOR BELT MOLDING ASSEMBLY** (See **INSTALLATION**)
8. **INSTALL REAR DOOR WEATHERSTRIP** (See **REASSEMBLY**)
9. **INSTALL REAR DOOR SERVICE HOLE COVER** (See **REASSEMBLY**)
10. **INSTALL REAR DOOR TRIM BRACKET** (See **REASSEMBLY**)
11. **INSTALL REAR DOOR TRIM BOARD SUB-ASSEMBLY** (See **REASSEMBLY**)
12. **INSTALL REAR DOOR INSIDE HANDLE BEZEL** (See **REASSEMBLY**)
13. **INSTALL REAR DOOR ARMREST BASE UPPER PANEL** (See **REASSEMBLY**)
14. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**

Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)

BACK DOOR LOCK

COMPONENTS

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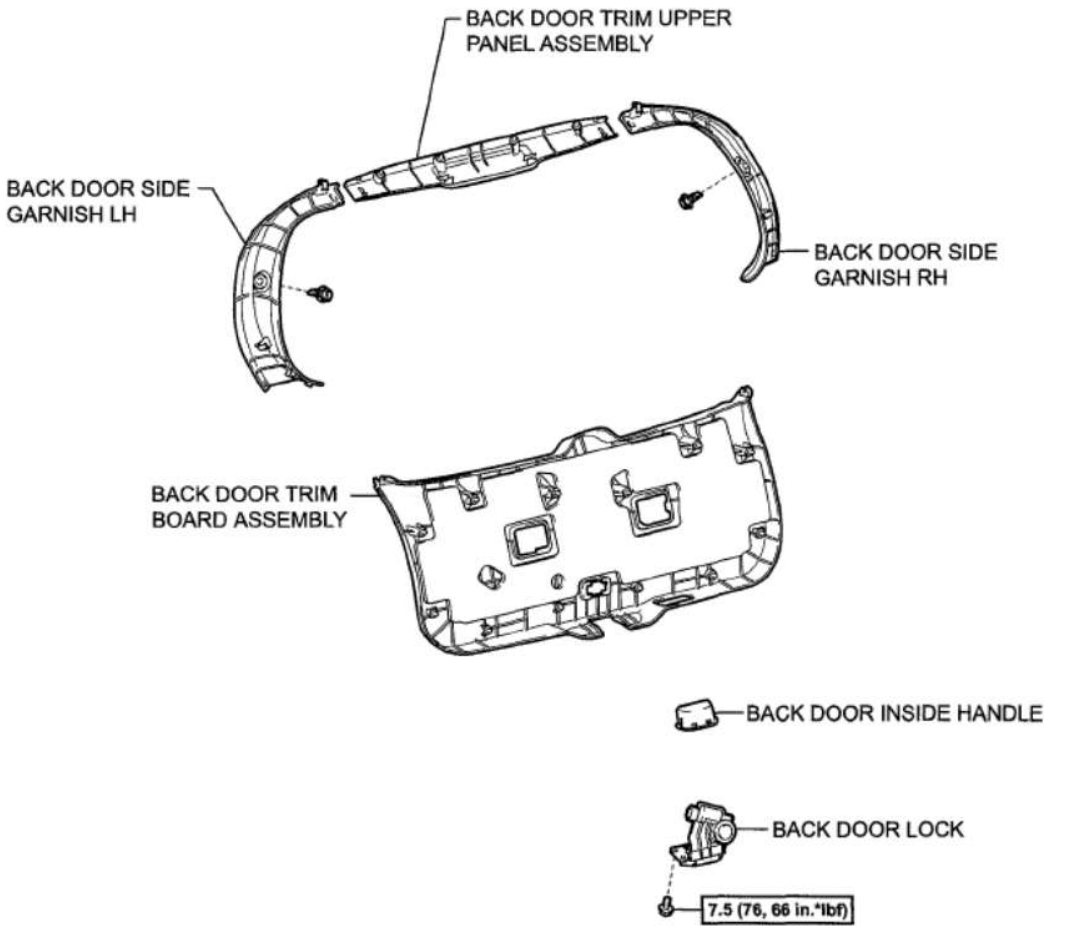


Fig. 129: Identifying Back Door Lock Components With Torque Specification
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE BACK DOOR TRIM UPPER PANEL ASSEMBLY** (See **DISASSEMBLY**)
2. **REMOVE BACK DOOR SIDE GARNISH LH** (See **DISASSEMBLY**)
3. **REMOVE BACK DOOR SIDE GARNISH RH** (See **DISASSEMBLY**)
4. **REMOVE BACK DOOR INSIDE HANDLE** (See **DISASSEMBLY**)
5. **REMOVE BACK DOOR TRIM BOARD ASSEMBLY** (See **DISASSEMBLY**)
6. **REMOVE BACK DOOR LOCK**

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a. Disconnect the connector.
b. Remove the 3 bolts and back door lock.

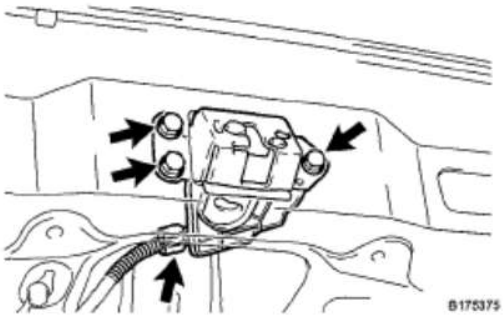


Fig. 130: Locating Back Door Lock Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. **INSPECT BACK DOOR LOCK**
   a. Check the operation.
      1. Move the back door lock to the lock position.
      2. Connect the positive (+) lead from the battery to terminal 2 (ACT+) and the negative (-) lead to terminal 1 (ACT-), then check that the lock unlocks.

         OK: Unlocks

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

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Component without harness connected:
(Back Door Lock)

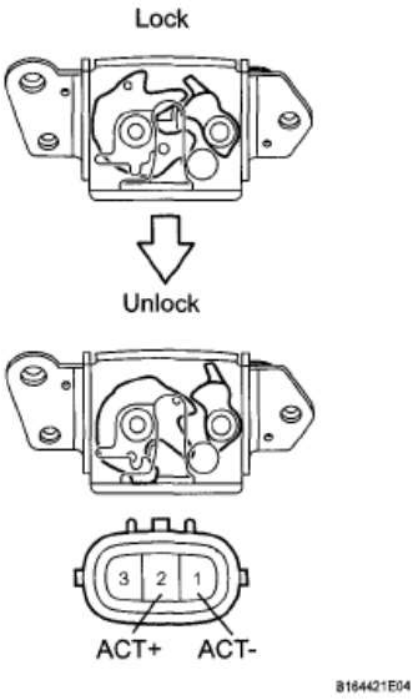


Fig. 131: Identifying Back Door Lock Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Check operation of the back door courtesy switch.
   1. Measure the resistance according to the value(s) in the table below.

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Component without harness connected:
(Back Door Lock)

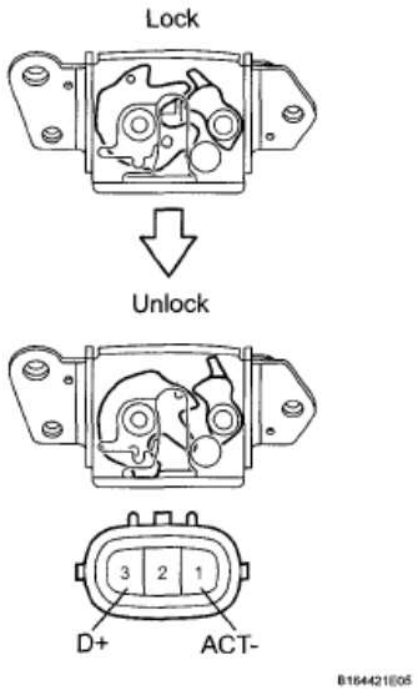


Fig. 132: Identifying Back Door Lock Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Switch Condition	Specified Condition
1 (ACT-) - 3 (D+)	Locked	10 kohms or higher
1 (ACT-) - 3 (D+)	Unlocked	Below 1 ohms

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

INSTALLATION

1. **INSTALL BACK DOOR LOCK**
   a. Install the back door with the 3 bolts.

   Torque: 7.5 N*m (76 kgf*cm, 66 in.*lbf)

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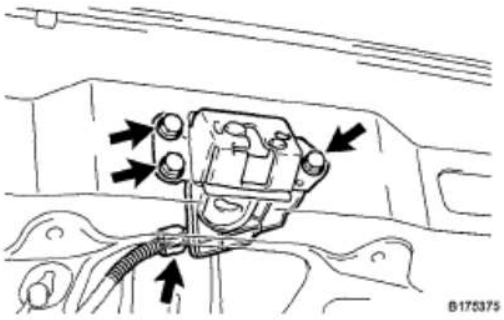


Fig. 133: Locating Back Door Lock Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Connect the connector.

2. **INSTALL BACK DOOR TRIM BOARD ASSEMBLY** (See **REASSEMBLY**)
3. **INSTALL BACK DOOR INSIDE HANDLE** (See **REASSEMBLY**)
4. **INSTALL BACK DOOR SIDE GARNISH LH** (See **REASSEMBLY**)
5. **INSTALL BACK DOOR SIDE GARNISH RH** (See **REASSEMBLY**)
6. **INSTALL BACK DOOR TRIM UPPER PANEL ASSEMBLY** (See **REASSEMBLY**)

DOOR CONTROL RECEIVER

COMPONENTS

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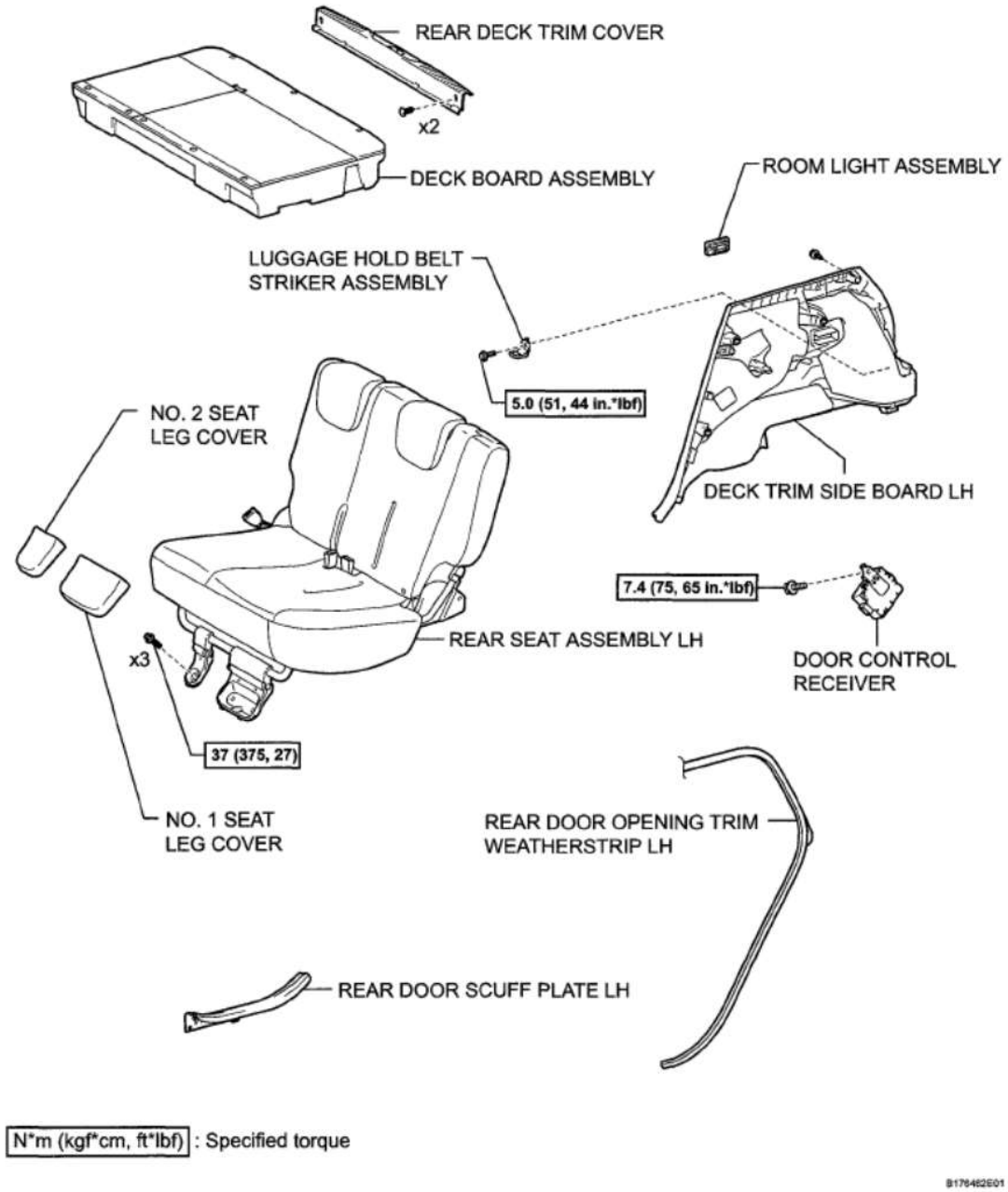


Fig. 134: Identifying Door Control Receiver Components With Torque Specifications
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE REAR DOOR SCUFF PLATE LH**

   HINT:

   Use the same procedure as for the RH side (See **REMOVAL**).

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2. **REMOVE REAR DOOR OPENING TRIM WEATHERSTRIP LH**

   HINT:

   Use the same procedure as for the RH side (See **REMOVAL**).

3. **REMOVE DECK BOARD ASSEMBLY** (See **REMOVAL**)
4. **REMOVE REAR DECK TRIM COVER** (See **REMOVAL**)
5. **REMOVE NO. 1 SEAT LEG COVER** (See **REMOVAL**)
6. **REMOVE NO. 2 SEAT LEG COVER** (See **REMOVAL**)
7. **REMOVE REAR SEAT ASSEMBLY LH** (See **REMOVAL**)
8. **REMOVE LUGGAGE HOLD BELT STRIKER ASSEMBLY** (See **REMOVAL**)
9. **REMOVE ROOM LIGHT ASSEMBLY** (See **REMOVAL**)
10. **REMOVE DECK TRIM SIDE BOARD LH** (See **REMOVAL**)
11. **REMOVE DOOR CONTROL RECEIVER**
    a. Disconnect the connector.

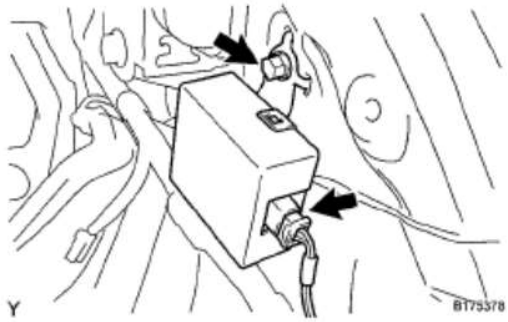


Fig. 135: Locating Door Control Receiver Bolt And Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

    b. Remove the bolt and the door control receiver.

INSTALLATION

1. **INSTALL DOOR CONTROL RECEIVER**
   a. Install the door control receiver with the bolt.

      Torque: 7.4 N*m (75 kgf*cm, 65 in.*lbf)

   b. Connect the connector.

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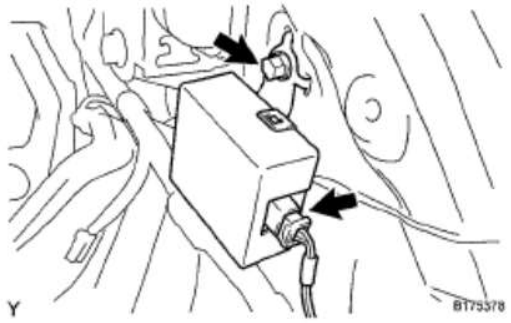


Fig. 136: Locating Door Control Receiver Bolt And Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL DECK TRIM SIDE BOARD LH** (See **INSTALLATION**)
3. **INSTALL ROOM LIGHT ASSEMBLY** (See **INSTALLATION**)
4. **INSTALL LUGGAGE HOLD BELT STRIKER ASSEMBLY** (See **INSTALLATION**)
5. **INSTALL REAR SEAT ASSEMBLY LH** (See **INSTALLATION**)
6. **INSTALL NO. 1 SEAT LEG COVER** (See **INSTALLATION**)
7. **INSTALL NO. 2 SEAT LEG COVER** (See **INSTALLATION**)
8. **INSTALL REAR DECK TRIM COVER** (See **INSTALLATION**)
9. **INSTALL DECK BOARD ASSEMBLY** (See **INSTALLATION**)
10. **INSTALL REAR DOOR OPENING TRIM WEATHERSTRIP LH**

    HINT:

    Use the same procedure as for the RH side (See **INSTALLATION**).

11. **INSTALL REAR DOOR SCUFF PLATE LH**

    HINT:

    Use the same procedure as for the RH side (See **INSTALLATION**).

WIRELESS DOOR LOCK BUZZER

COMPONENTS

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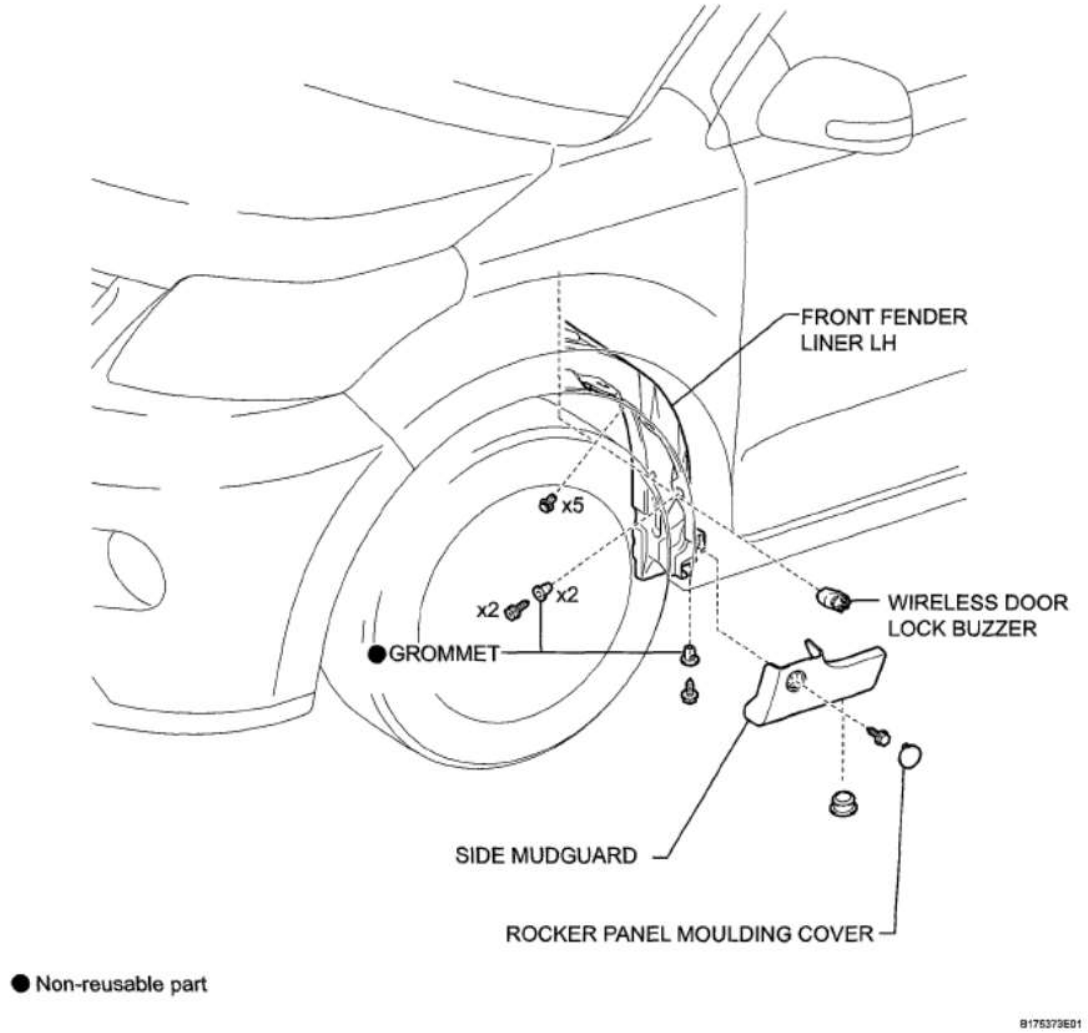


Fig. 137: Identifying Wireless Door Lock Buzzer Components
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE ROCKER PANEL MOLDING COVER** (See **REMOVAL**)
2. **REMOVE SIDE MUDGUARD** (See **REMOVAL**)
3. **REMOVE FRONT FENDER LINER LH**
   a. Remove the 3 screws.

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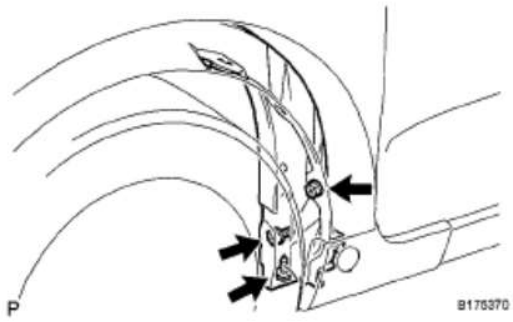


Fig. 138: Locating Front Fender Liner Screws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Remove the 5 clips and 3 grommets and remove the front fender liner.

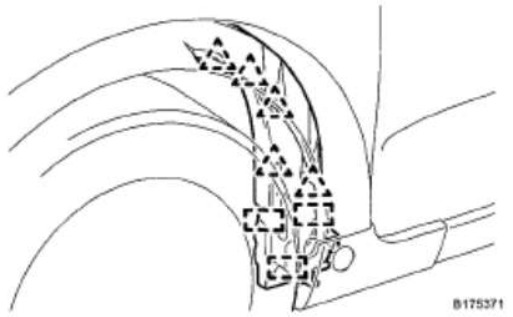


Fig. 139: Identifying Front Fender Liner Clips And Grommets
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. **REMOVE WIRELESS DOOR LOCK BUZZER**

a. Disconnect the connector.

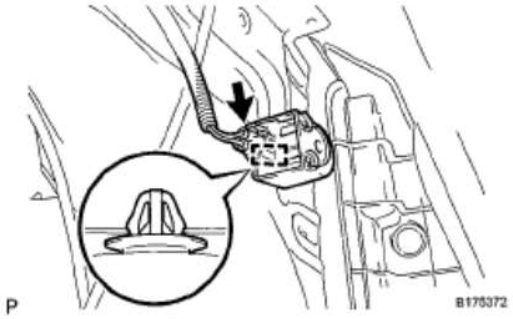


Fig. 140: Locating Wireless Door Lock Buzzer Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Disengage the clamp and remove the wireless door lock buzzer.

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INSPECTION

1. **INSPECT WIRELESS DOOR LOCK BUZZER**
   a. Check the resistance.
      1. Measure the resistance according to the value(s) in the table below.

Component without harness connected:

(Wreless Door Lock Buzzer)



Y B171127E01

Fig. 141: Identifying Wireless Door Lock Buzzer Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Condition	Specified Condition
1 - 2	Always	1 kohms

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

INSTALLATION

1. **INSTALL WIRELESS DOOR LOCK BUZZER**
   a. Install the wireless door lock buzzer.
   b. Connect the connector.

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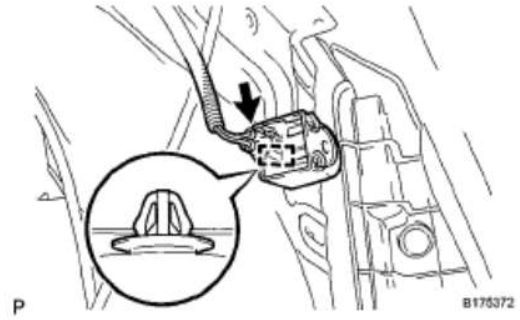


Fig. 142: Locating Wireless Door Lock Buzzer Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL FRONT FENDER LINER LH**
   a. Install the front fender liner with the 5 clips and 3 grommets.



Fig. 143: Identifying Front Fender Liner Clips And Grommets
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   b. Install the 3 screws.

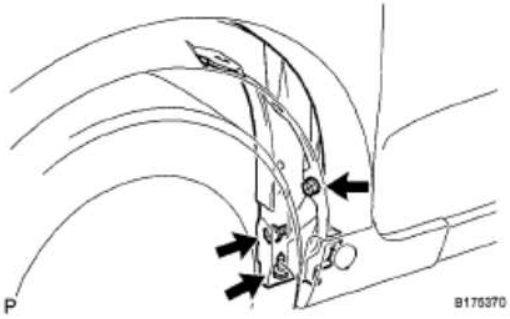


Fig. 144: Locating Front Fender Liner Screws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **INSTALL SIDE MUDGUARD** (See **INSTALLATION**)
4. **INSTALL ROCKER PANEL MOLDING COVER** (See **INSTALLATION**)

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