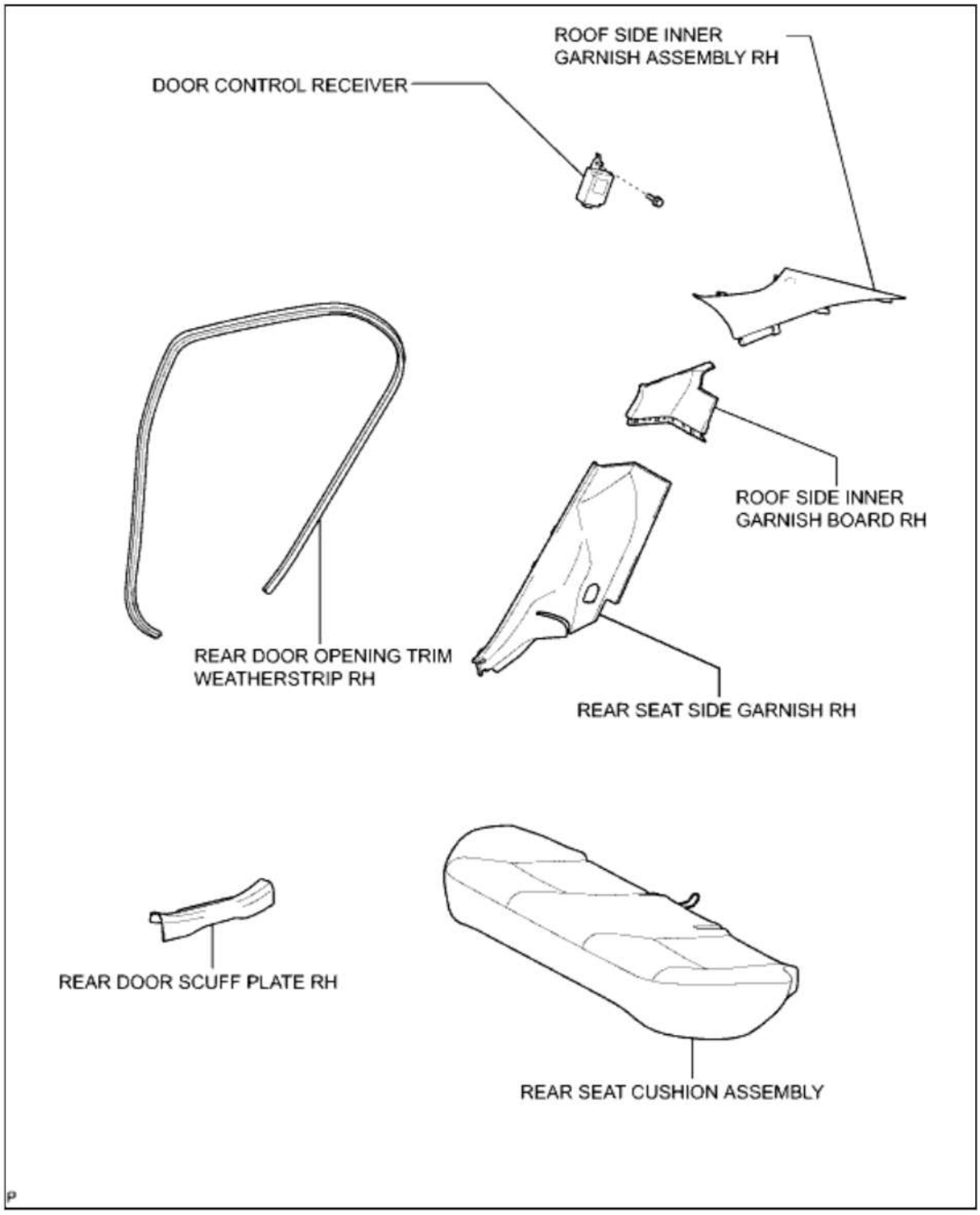
Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000030UL00GX
Title: DOOR LOCK: DOOR CONTROL RECEIVER: COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION



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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000030UM00IX
Title: DOOR LOCK: DOOR CONTROL RECEIVER: REMOVAL (2010 Corolla)		

REMOVAL

1. REMOVE REAR DOOR SCUFF PLATE RH

HINT:

Use the same procedure for the RH side and the LH side INFO .

2. REMOVE REAR DOOR OPENING TRIM WEATHERSTRIP RH

HINT:

Use the same procedure for the RH side and the LH side INFO .

3. REMOVE REAR SEAT CUSHION ASSEMBLY INFO

4. REMOVE REAR SEAT SIDE GARNISH RH

HINT:

Use the same procedure for the RH side and the LH side INFO .

5. REMOVE ROOF SIDE INNER GARNISH BOARD RH

HINT:

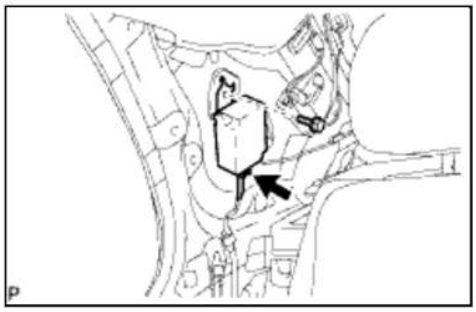
Use the same procedure for the RH side and the LH side INFO .

6. REMOVE ROOF SIDE INNER GARNISH ASSEMBLY RH

HINT:

Use the same procedure for the RH side and the LH side INFO .

7. REMOVE DOOR CONTROL RECEIVER



(a) Disconnect the connector.

(b) Remove the bolt and the door control receiver.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000030UJ00IX
Title: DOOR LOCK: DOOR CONTROL RECEIVER: INSTALLATION (2010 Corolla)		

INSTALLATION

1. INSTALL DOOR CONTROL RECEIVER



(a) Install the door control receiver with the bolt.

(b) Connect the connector.

2. INSTALL ROOF SIDE INNER GARNISH ASSEMBLY RH

HINT:

Use the same procedure for the RH side and the LH side INFO .

3. INSTALL ROOF SIDE INNER GARNISH BOARD RH

HINT:

Use the same procedure for the RH side and the LH side INFO .

4. INSTALL REAR SEAT SIDE GARNISH RH

HINT:

Use the same procedure for the RH side and the LH side INFO .

5. INSTALL REAR SEAT CUSHION ASSEMBLY INFO

6. INSTALL REAR DOOR OPENING TRIM WEATHERSTRIP RH INFO

7. INSTALL REAR DOOR SCUFF PLATE RH

HINT:

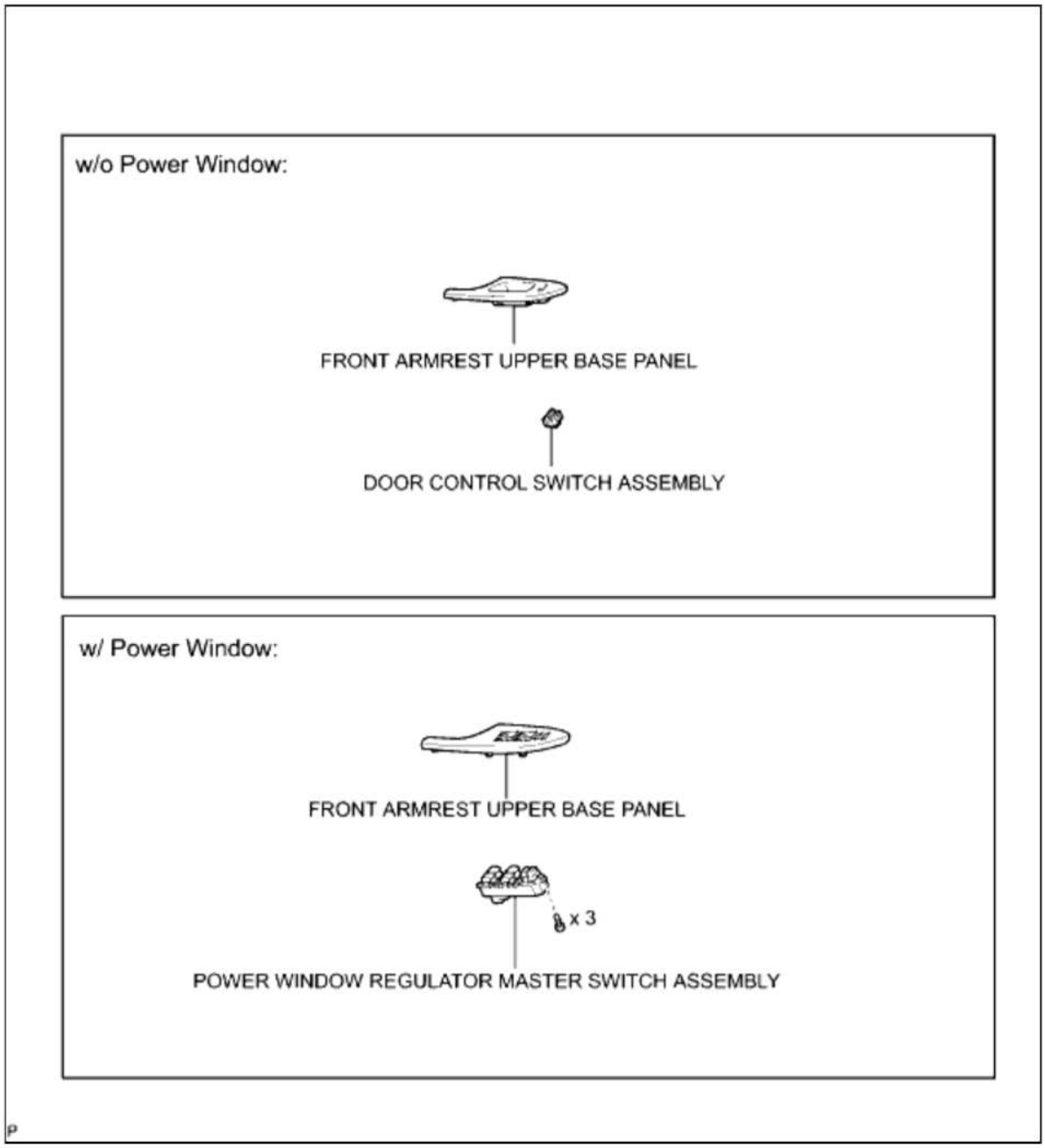
Use the same procedure for the RH side and the LH side INFO .

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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001P7W01EX
Title: DOOR LOCK: DOOR CONTROL SWITCH: COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION



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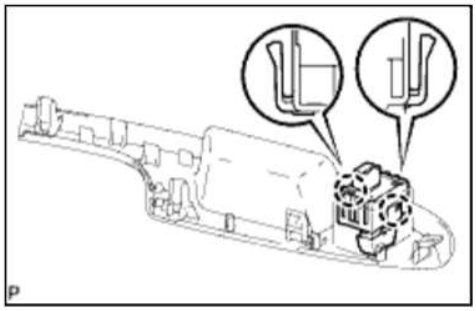
Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001P7X01QX
Title: DOOR LOCK: DOOR CONTROL SWITCH: REMOVAL (2010 Corolla)		

REMOVAL

1. REMOVE FRONT ARMREST UPPER BASE PANEL (w/o Power Window) INFO

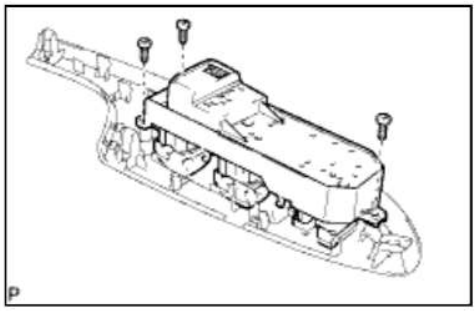
2. REMOVE FRONT ARMREST UPPER BASE PANEL (w/ Power Window) INFO

3. REMOVE DOOR CONTROL SWITCH ASSEMBLY (w/o Power Window)



(a) Using a screwdriver with the tip wrapped with protective tape, disengage the 2 claws and remove the door control switch assembly.

4. REMOVE POWER WINDOW REGULATOR MASTER SWITCH ASSEMBLY (w/ Power Window)



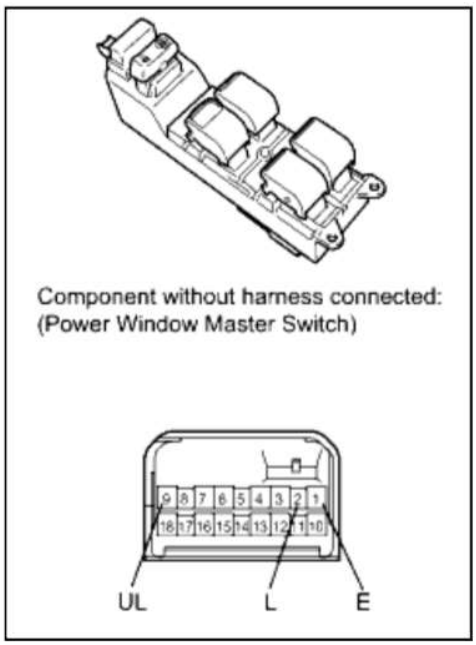
(a) Remove the 3 screws and the power window regulator master switch assembly.

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Last Modified: 3-10-2010	6.4 G	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002XUB009X
Title: DOOR LOCK: DOOR CONTROL SWITCH: INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT POWER WINDOW MASTER SWITCH (for Driver Side with Power Window)



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

Standard resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 (E) - 2 (L)	Lock	Below 1 Ω
1 (E) - 2 (L) 1 (E) - 9 (UL)	OFF (Free)	10 kΩ or higher
1 (E) - 9 (UL)	Unlock	Below 1 Ω

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

2. INSPECT DOOR CONTROL SWITCH ASSEMBLY (for Driver Side without Power Window)

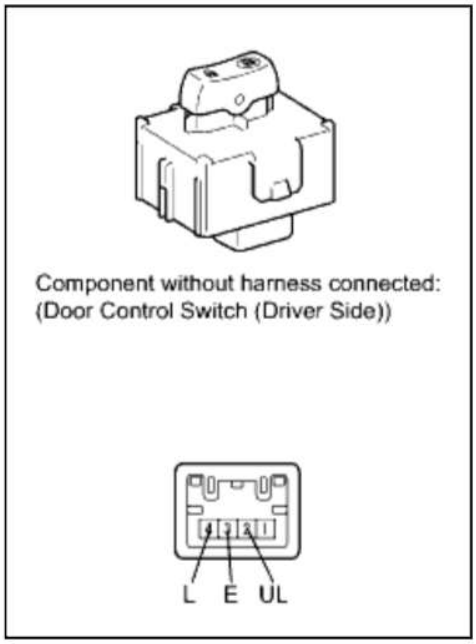
(a) Measure the resistance according to the value(s) in the table below.

Standard resistance:

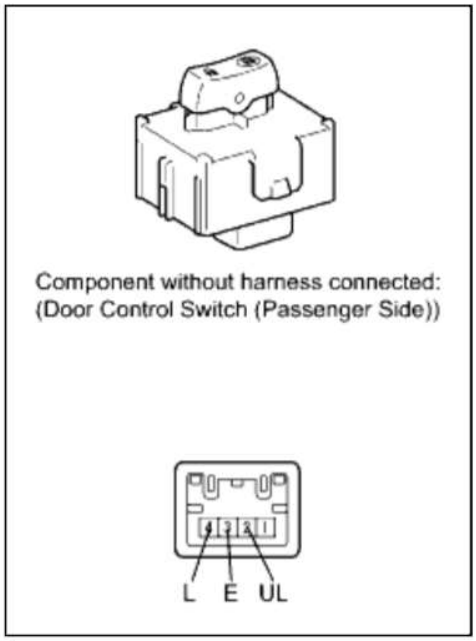
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3 (E) - 4 (L)	Lock	Below 1 Ω
3 (E) - 4 (L) 2 (UL) - 3 (E)	OFF (Free)	10 kΩ or higher
2 (UL) - 3 (E)	Unlock	Below 1 Ω

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

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3. INSPECT DOOR CONTROL SWITCH ASSEMBLY (for Front Passenger Side)



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

Standard resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3 (E) - 4 (L)	Lock	Below 1 Ω
3 (E) - 4 (L) 2 (UL) - 3 (E)	OFF (Free)	10 kΩ or higher
2 (UL) - 3 (E)	Unlock	Below 1 Ω

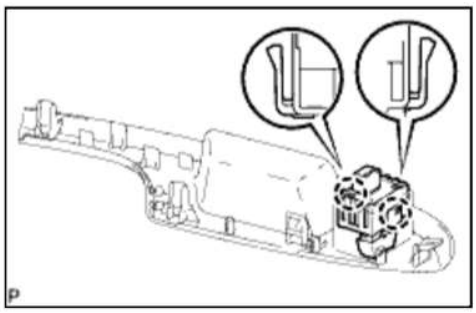
If the result is not specified, replace door control switch.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001P7U01QX
Title: DOOR LOCK: DOOR CONTROL SWITCH: INSTALLATION (2010 Corolla)		

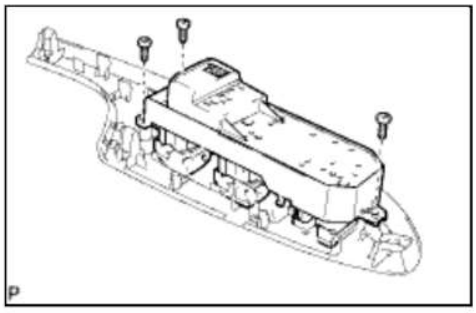
INSTALLATION

1. INSTALL DOOR CONTROL SWITCH ASSEMBLY (w/o Power Window)



(a) Engage the 2 claws and install the door control switch assembly.

2. INSTALL POWER WINDOW REGULATOR MASTER SWITCH ASSEMBLY (w/ Power Window)



(a) Install the power window regulator master switch assembly with the 3 screws.

3. INSTALL FRONT ARMREST UPPER BASE PANEL (w/o Power Window) INFO

4. INSTALL FRONT ARMREST UPPER BASE PANEL (w/ Power Window) INFO

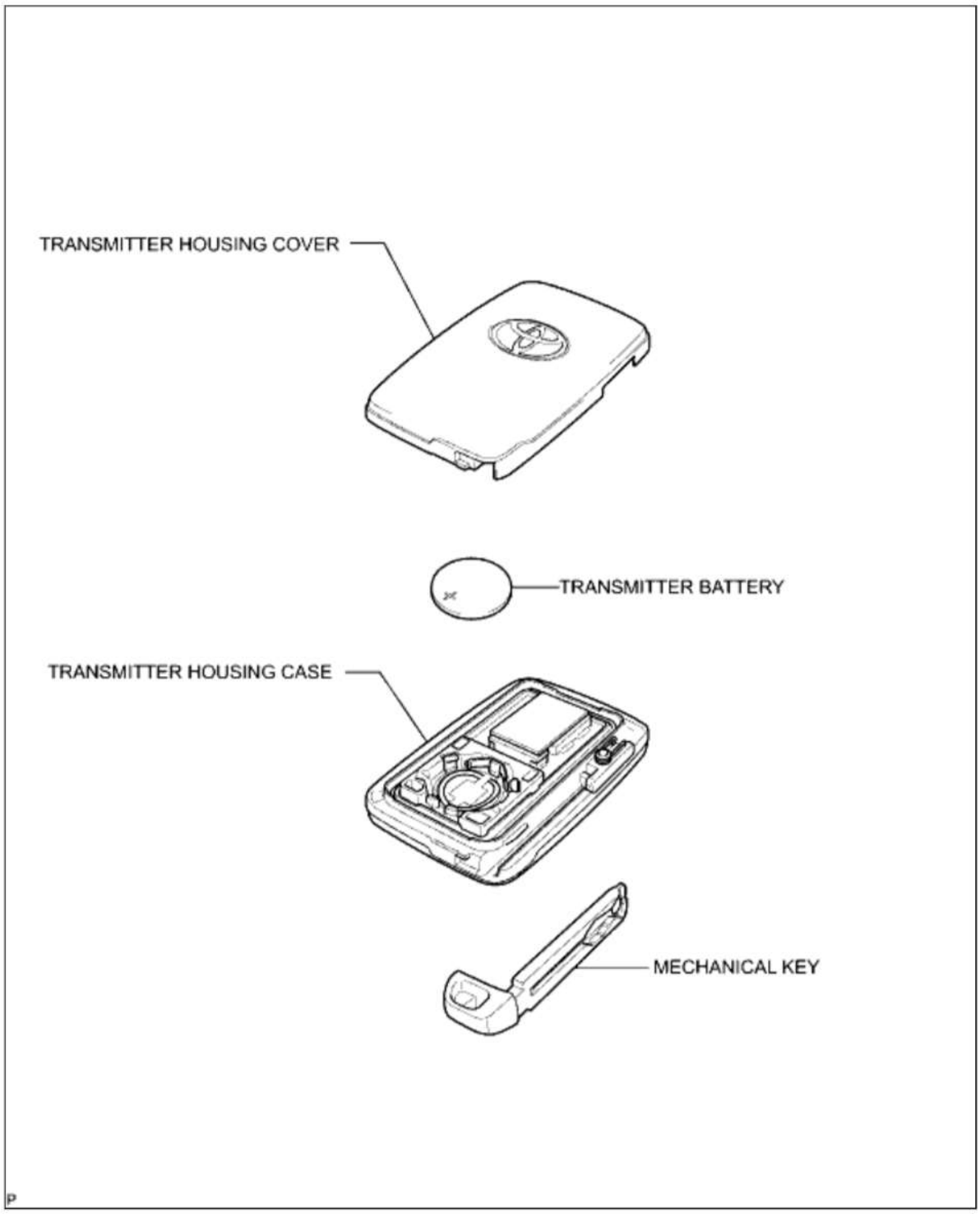
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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001P7Q01MX
Title: DOOR LOCK: DOOR CONTROL TRANSMITTER (w/ Smart Key System): COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION

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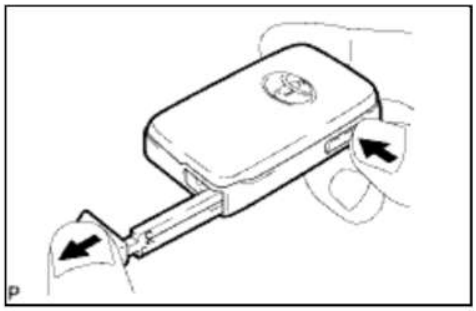


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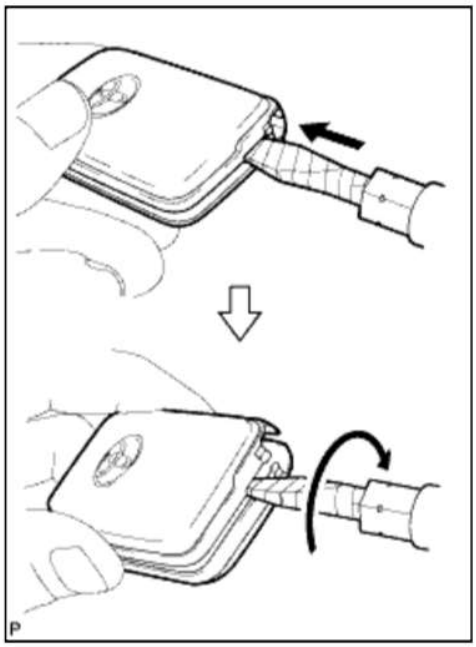
Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001P7R01PX
Title: DOOR LOCK: DOOR CONTROL TRANSMITTER (w/ Smart Key System): REMOVAL (2010 Corolla)		

REMOVAL

1. REMOVE TRANSMITTER BATTERY



(a) Remove the mechanical key.



(b) Insert a screwdriver into the gap, and turn the screwdriver to detach the cover.

HINT:

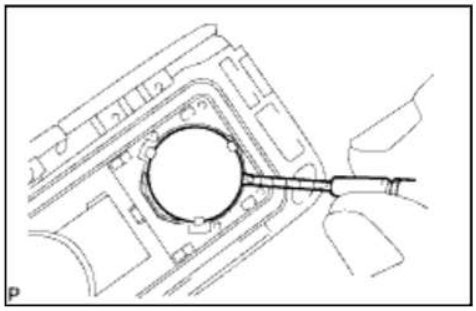
Tape the screwdriver tip before use.

(c) Insert a screwdriver into the gap and gently remove the battery (lithium battery).

NOTICE:

- Do not push the terminals with your finger.
- Do not forcibly pry up the battery (lithium battery) because doing so will deform the terminals.

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- Do not touch the battery with wet hands. Water may result in corrosion.
- Do not touch or move any components inside the transmitter because handling the components may interfere with proper operation of the transmitter.

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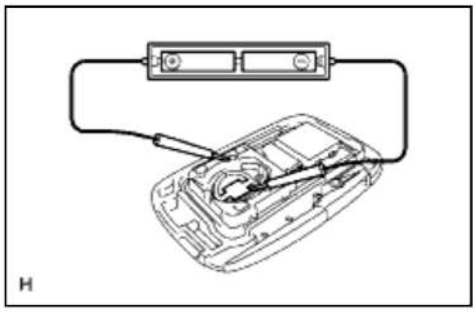
Last Modified: 3-10-2010	6.4 G	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001L9A02BX
Title: DOOR LOCK: DOOR CONTROL TRANSMITTER (w/ Smart Key System): INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT DOOR CONTROL TRANSMITTER

(a) Inspect operation of the transmitter.

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



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

HINT:

If a new or normal battery is not available, first connect 2 new 1.5 V batteries in series. Then connect leads to the batteries and apply 3 V to the transmitter, as shown in the illustration.

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

OK:

The door lock can be operated via the transmitter.

The LED comes on more than once.

- The operational area differs depending on the user, the way the transmitter is held, and the location.
- The transmitter's faint electric waves may be affected if the area has strong electric waves or noise. The transmitter's operation area may be shortened or the transmitter may not function.

(b) Inspect the battery capacity.

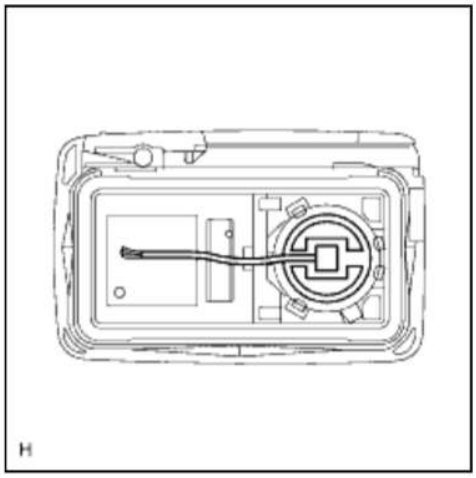
(1) Remove the battery from the electrical key transmitter that does not operate. Attach a lead wire (0.6 mm (0.0236 in.) in diameter or less including wire sheath) with tape or equivalent to the negative terminal INFO .

NOTICE:

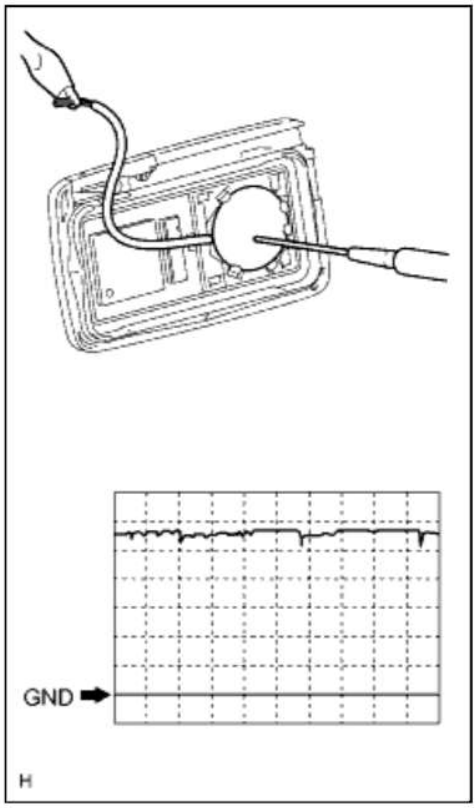
Do not wrap the lead wire around a terminal, wedge it between the terminals, or solder it. A terminal may be deformed or damaged, and the battery will not be able to be installed correctly.

(2) Carefully pull the lead wire out from the position shown in the illustration and install the previously removed transmitter battery.

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(3) Using an oscilloscope, check the transmitter battery voltage waveform.



HINT:

When measuring the battery voltage, while operating the lock switch of a door handle, bring the electrical key transmitter within the entry operating range to perform the measurement. For the entry operating range, refer to SYSTEM DESCRIPTION INFO **.**

Standard voltage:

ITEM	CONTENT
Tester Connection	Battery positive (+) - Battery negative (-)
Tool Setting	0.5 V/DIV., 100 ms/DIV.
Condition	Engine switch OFF, all doors closed and lock switch pushed
Specified Condition	2.2 to 3.2 V (Refer to the waveform)

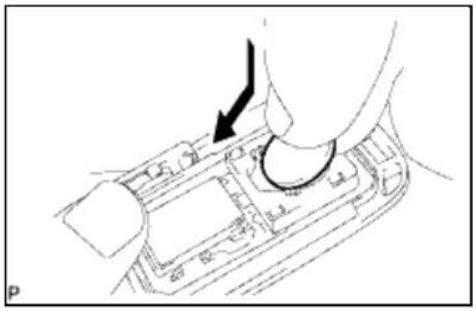
If the result is not as specified, replace the transmitter battery.

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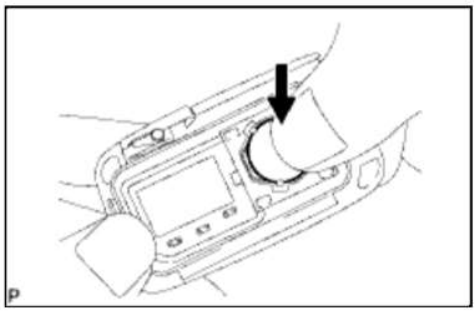
Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001P7P01MX
Title: DOOR LOCK: DOOR CONTROL TRANSMITTER (w/ Smart Key System): INSTALLATION (2010 Corolla)		

INSTALLATION

1. INSTALL TRANSMITTER BATTERY



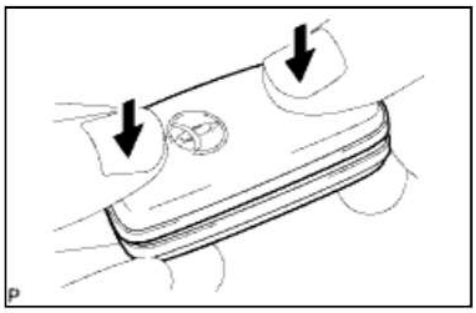
(a) Install a new battery (lithium battery) with the positive (+) side up as shown in the illustration.



(b) Press down gently on the battery to set it in place.

NOTICE:

- Be sure that the positive and negative sides of the transmitter battery are positioned correctly.
- Be careful not to bend the terminals of the transmitter battery during installation.
- Keep the interior of the transmitter case free of dust, water, and oil.



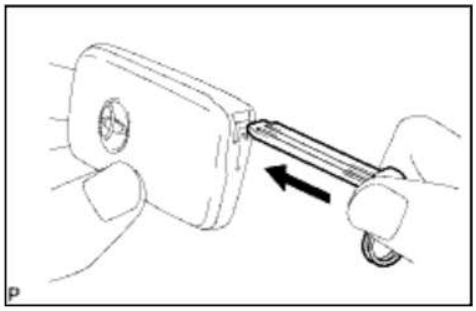
(c) Install the cover by pressing it as shown in the illustration.

(d) Install the mechanical key.

HINT:

After the installation, press one of the transmitter switches and check

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that the LED illuminates.

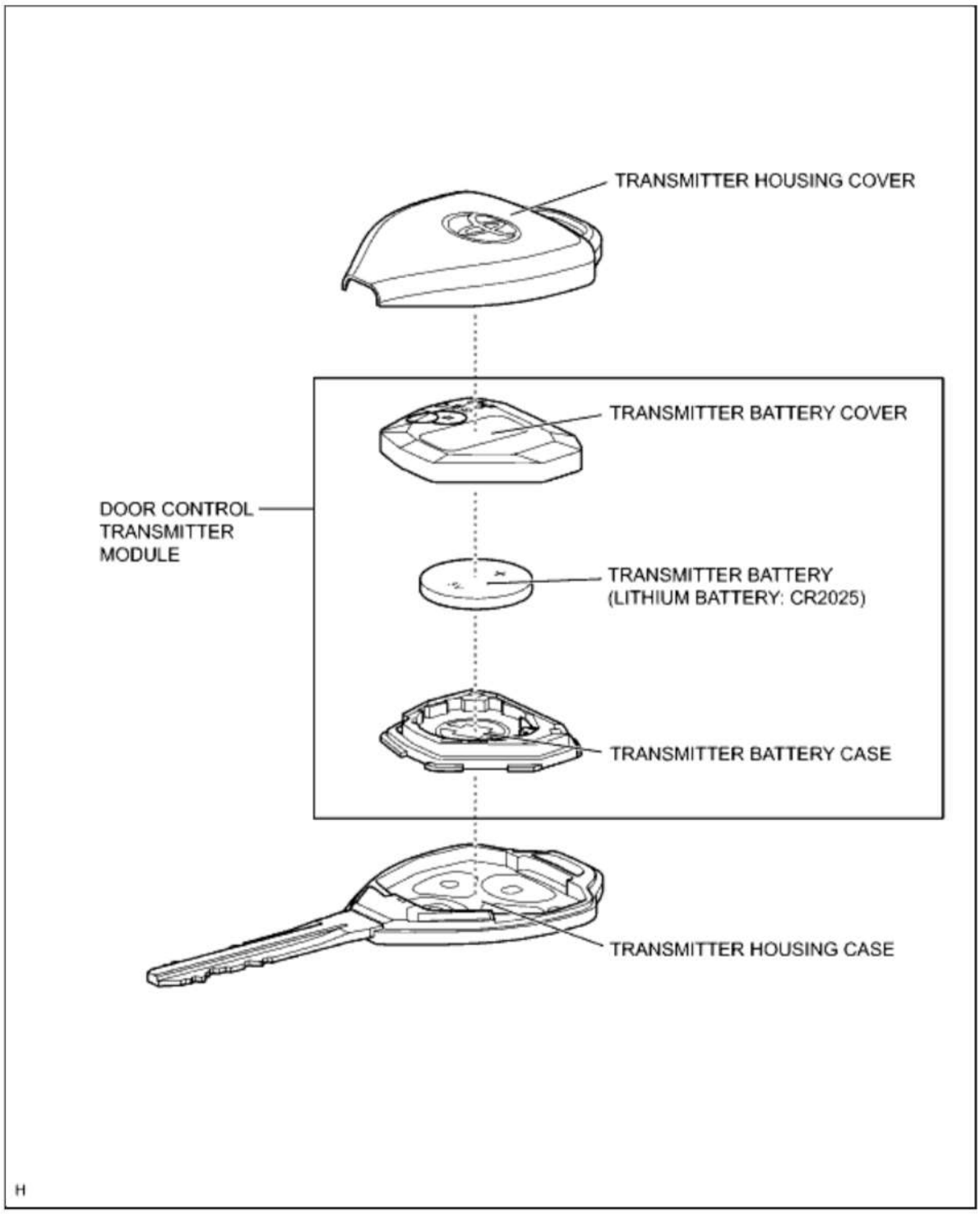
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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001J7L01SX
Title: DOOR LOCK: DOOR CONTROL TRANSMITTER (w/o Smart Key System): COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION

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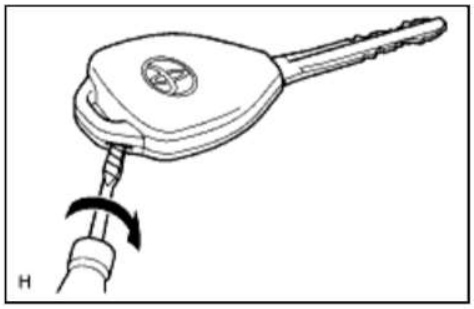


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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001J7M01KX
Title: DOOR LOCK: DOOR CONTROL TRANSMITTER (w/o Smart Key System): REMOVAL (2010 Corolla)		

REMOVAL

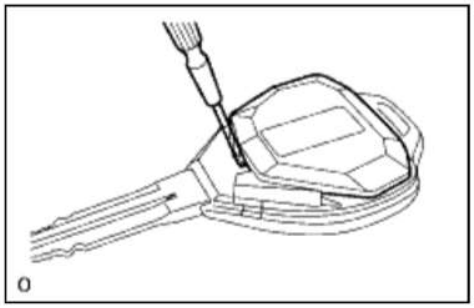
1. REMOVE TRANSMITTER HOUSING COVER



(a) Using a screwdriver with its tip wrapped in protective tape, pry open the transmitter housing cover.

NOTICE:
Do not forcibly pry the cover.

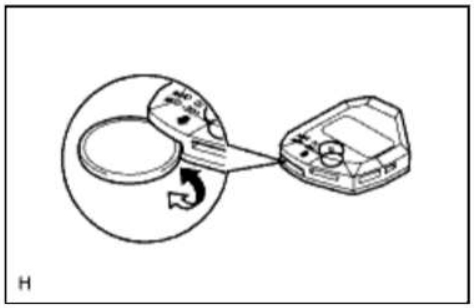
2. REMOVE DOOR CONTROL TRANSMITTER MODULE



(a) Using a screwdriver with its tip wrapped in protective tape, remove the door control transmitter module from the transmitter housing case.

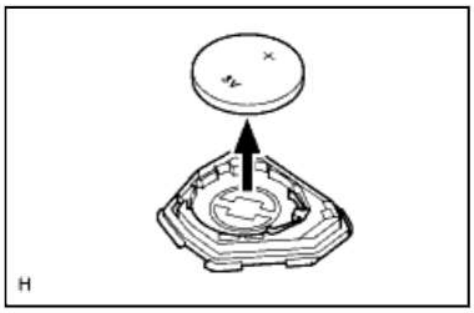
NOTICE:
Handle each part with care as they are delicate electrical parts.

3. REMOVE TRANSMITTER BATTERY



(a) Twist the coin in the direction of the arrow mark in the illustration, and remove the transmitter battery cover.

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(b) Remove the battery (lithium battery: CR2025).

NOTICE:

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

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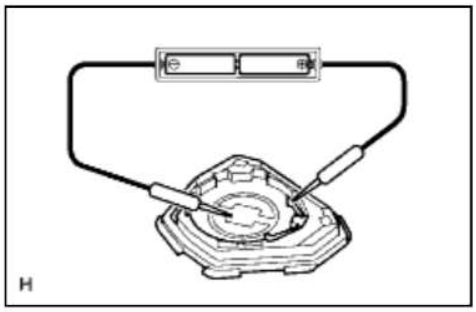
Last Modified: 3-10-2010	6.4 G	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001L9A02CX
Title: DOOR LOCK: DOOR CONTROL TRANSMITTER (w/o Smart Key System): INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT DOOR CONTROL TRANSMITTER

(a) Inspect operation of the transmitter.

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



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

HINT:

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

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

OK:

The door lock can be operated via the transmitter.

The LED comes on more than once.

- The operational area differs depending on the user, the way the transmitter is held and the location.
- The transmitter's faint electric waves may be affected if the area has strong electric waves or noise. The transmitter's operation area may be shortened or the transmitter may not function.

(b) Inspect the battery capacity.

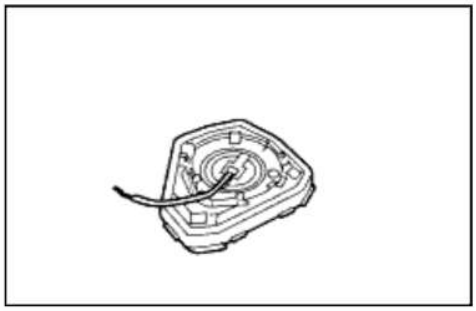
(1) Remove the battery from the electrical key transmitter that does not operate. Attach a lead wire (0.6 mm (0.0236 in.) in diameter or less including wire sheath) with tape or equivalent to the negative terminal INFO .

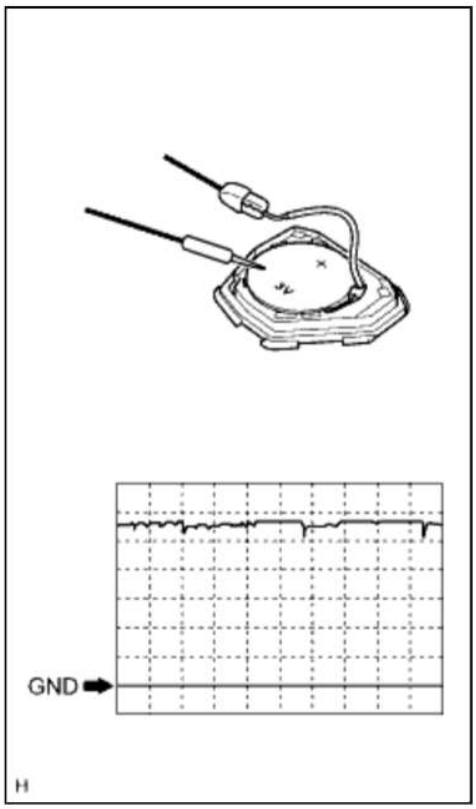
NOTICE:

Do not wrap the lead wire around a terminal, wedge it between the terminals, or solder it. A terminal may be deformed or damaged, and the battery will not be able to be installed correctly.

(2) Carefully pull the lead wire out from the position shown in the illustration and install the previously removed transmitter battery.

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(3) Using an oscilloscope, check the transmitter battery voltage waveform.

HINT:

Measure the transmitter battery voltage while pressing the LOCK or UNLOCK switch on the transmitter.

Standard voltage:

ITEM	CONTENT
Tester Connection	Battery positive (+) - Battery negative (-)
Tool Setting	0.5 V/DIV., 100 ms/DIV.
Condition	Engine switch OFF, all doors closed and lock switch pushed
Specified Condition	2.2 to 3.2 V (Refer to the waveform)

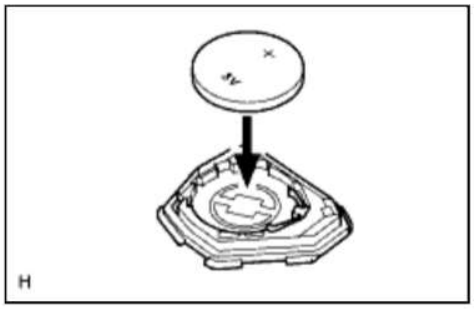
If the result is not as specified, replace the transmitter battery.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001J7J01HX
Title: DOOR LOCK: DOOR CONTROL TRANSMITTER (w/o Smart Key System): INSTALLATION (2010 Corolla)		

INSTALLATION

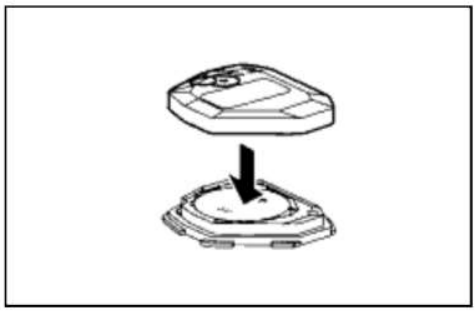
1. INSTALL TRANSMITTER BATTERY



(a) Install a battery (lithium battery: CR2025) with the positive (+) side facing upward, as shown in the illustration.

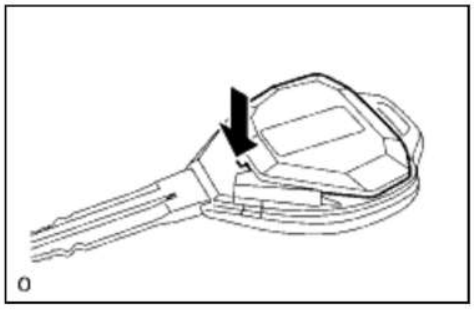
NOTICE:

- Be careful not to bend the transmitter battery electrode during insertion.
- Keep the transmitter cover interior free of dust and oil.



(b) Install the cover.

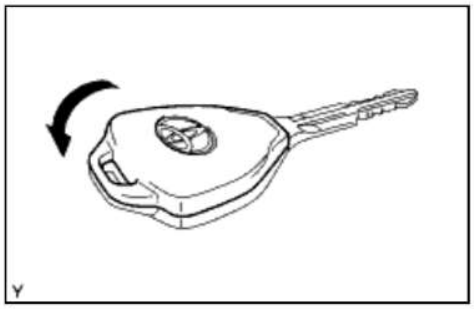
2. INSTALL DOOR CONTROL TRANSMITTER MODULE



(a) Install the door control transmitter module into the transmitter housing case, and install the transmitter housing cover securely onto the transmitter housing case.

3. INSTALL TRANSMITTER HOUSING COVER

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(a) Install the transmitter housing cover to the transmitter housing case.

(b) Check that the transmitter LED illuminates when the switch is pressed.

OK:

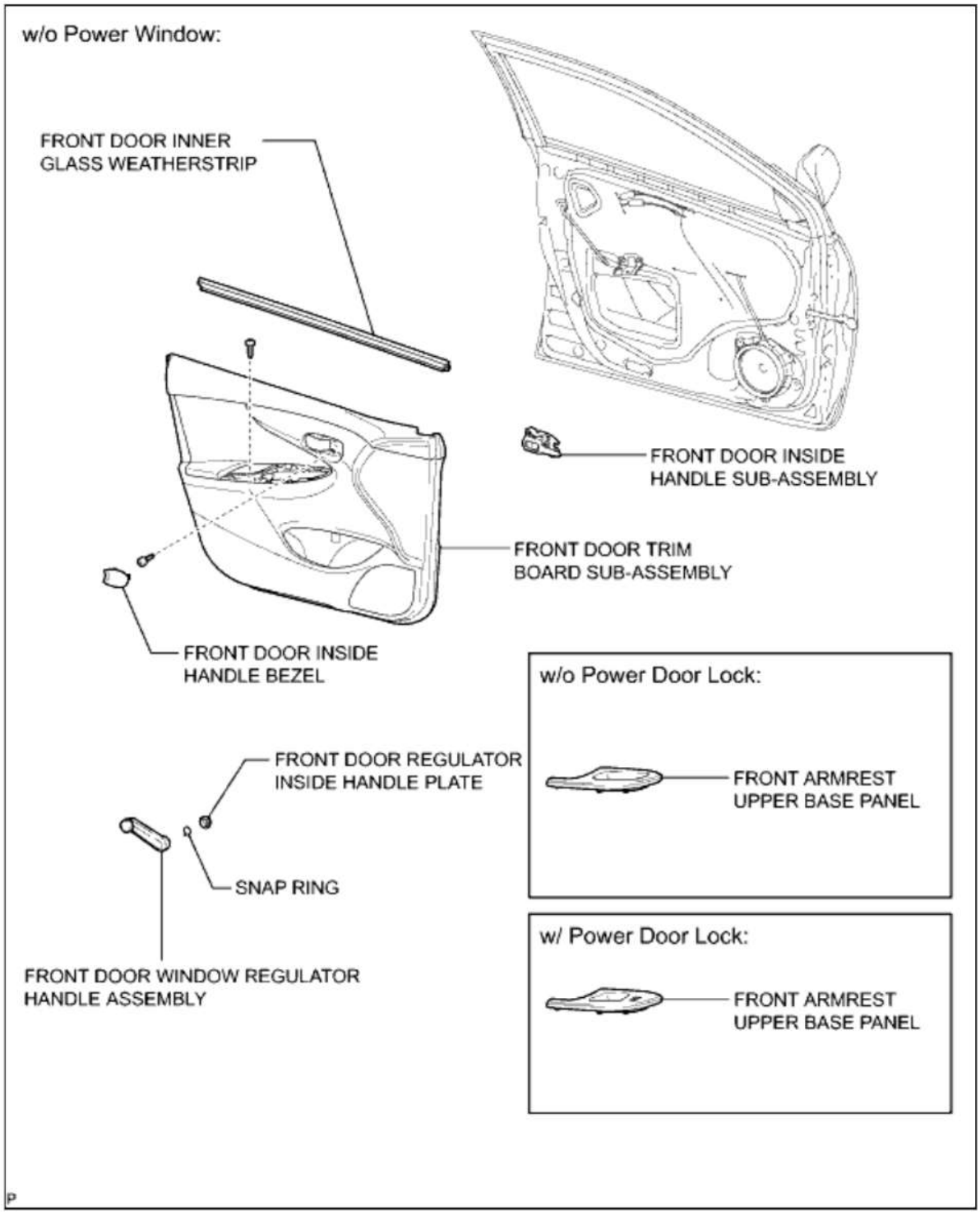
Transmitter LED illuminates when switch is pressed.

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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000XBA02GX
Title: DOOR LOCK: FRONT DOOR LOCK: COMPONENTS (2010 Corolla)		

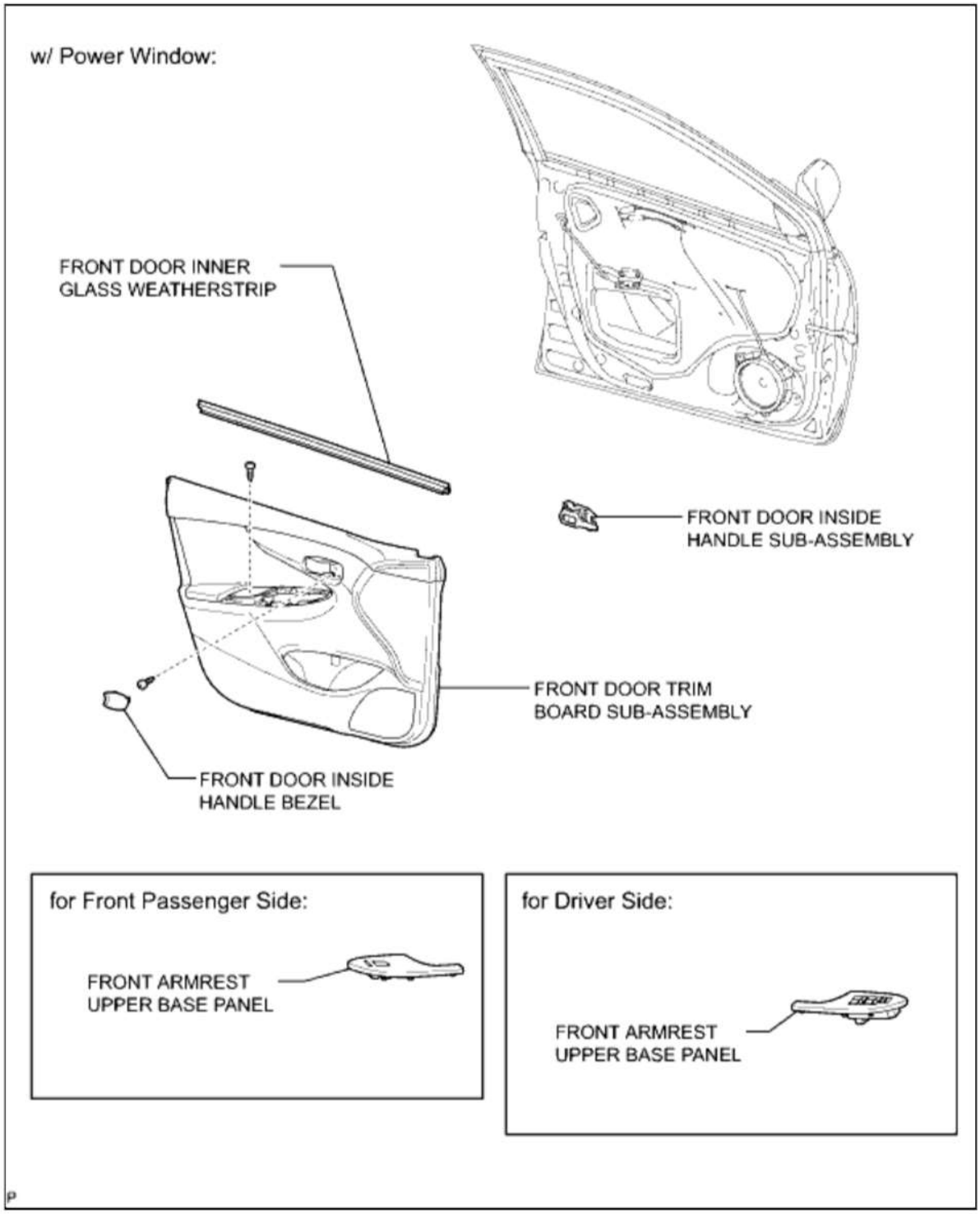
COMPONENTS

ILLUSTRATION



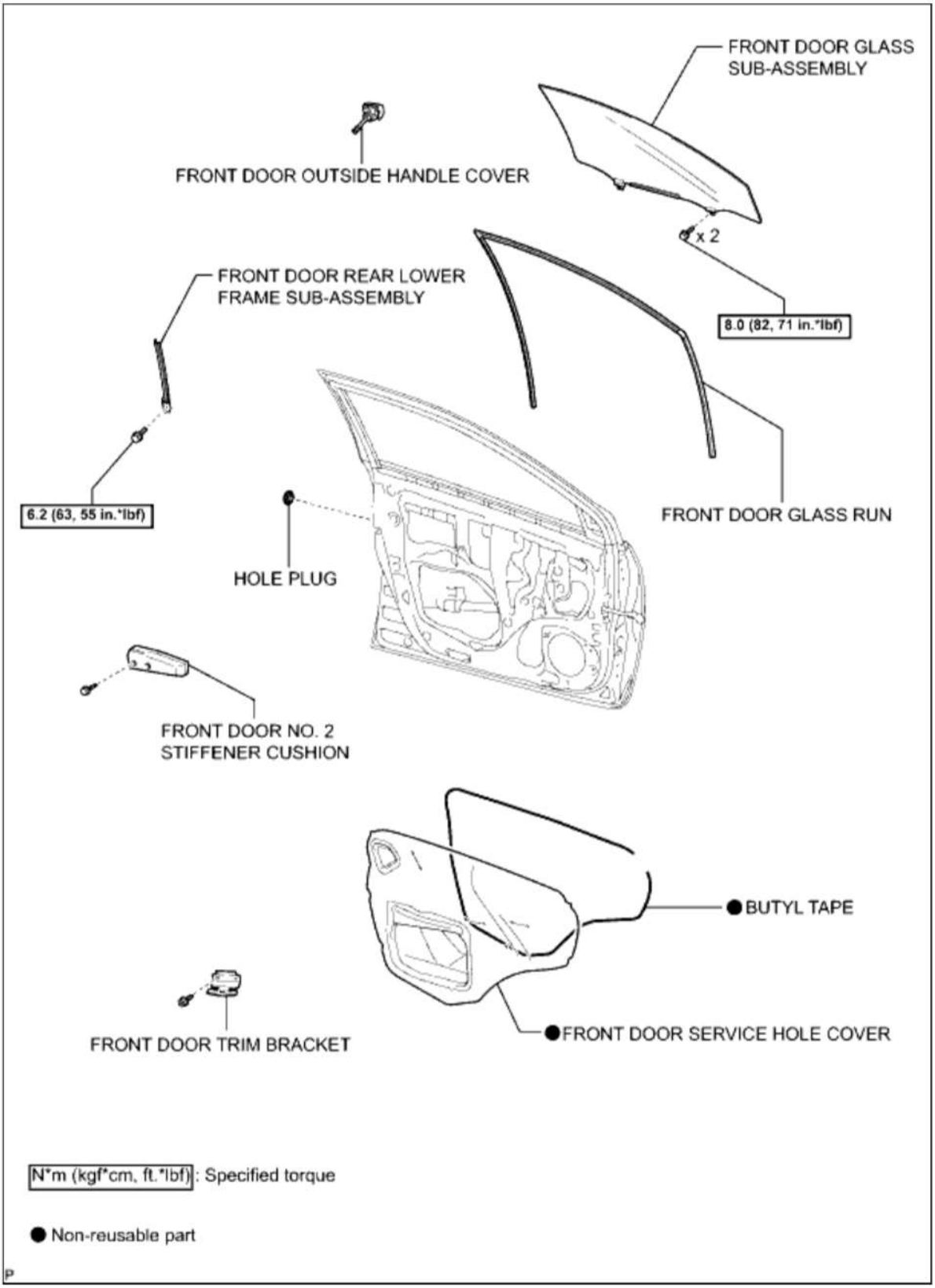
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ILLUSTRATION



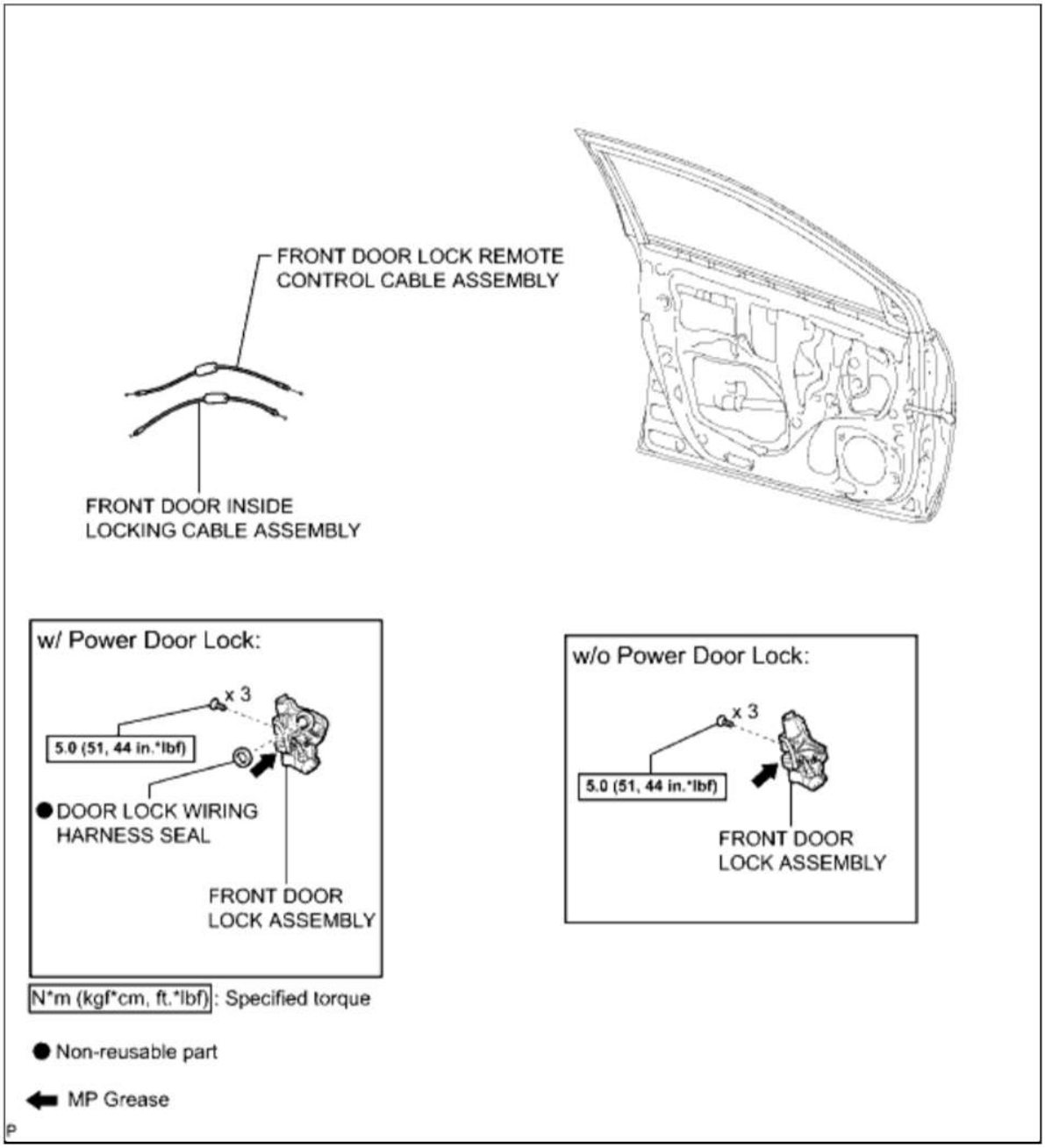
ILLUSTRATION

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ILLUSTRATION

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000011QF02UX
Title: DOOR LOCK: FRONT DOOR LOCK: REMOVAL (2010 Corolla)		

REMOVAL

1. REMOVE FRONT DOOR WINDOW REGULATOR HANDLE ASSEMBLY (w/o Power Window) INFO

2. REMOVE FRONT DOOR INSIDE HANDLE BEZEL INFO

3. REMOVE FRONT ARMREST UPPER BASE PANEL (w/o Power Window) INFO

4. REMOVE FRONT ARMREST UPPER BASE PANEL (w/ Power Window) INFO

5. REMOVE FRONT DOOR TRIM BOARD SUB-ASSEMBLY INFO

6. REMOVE FRONT DOOR INSIDE HANDLE SUB-ASSEMBLY INFO

7. REMOVE FRONT DOOR INNER GLASS WEATHERSTRIP INFO

8. REMOVE FRONT DOOR TRIM BRACKET INFO

9. REMOVE FRONT DOOR SERVICE HOLE COVER INFO

10. REMOVE FRONT DOOR GLASS SUB-ASSEMBLY INFO

11. REMOVE FRONT DOOR NO. 2 STIFFENER CUSHION INFO

12. REMOVE FRONT DOOR GLASS RUN INFO

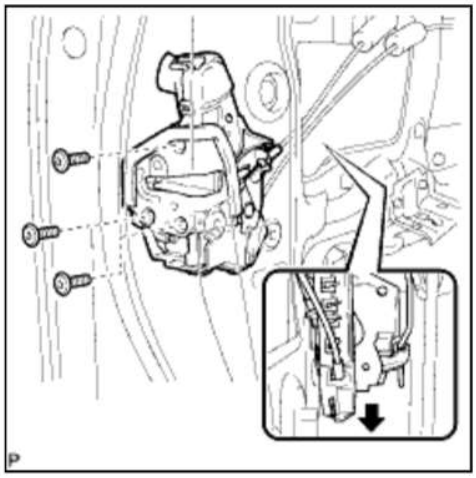
13. REMOVE FRONT DOOR REAR LOWER FRAME SUB-ASSEMBLY INFO

14. REMOVE FRONT DOOR OUTSIDE HANDLE COVER INFO

15. REMOVE FRONT DOOR LOCK ASSEMBLY (w/o Power Door Lock)

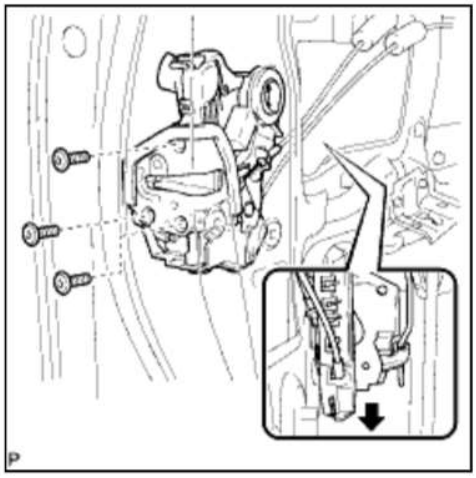
(a) Using a "TORX" socket wrench (T30), remove the 3 screws.

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(b) Slide the front door lock assembly downward, and remove the front door lock assembly and cables as a unit.

16. REMOVE FRONT DOOR LOCK ASSEMBLY (w/ Power Door Lock)



(a) Using a "TORX" socket wrench (T30), remove the 3 screws.

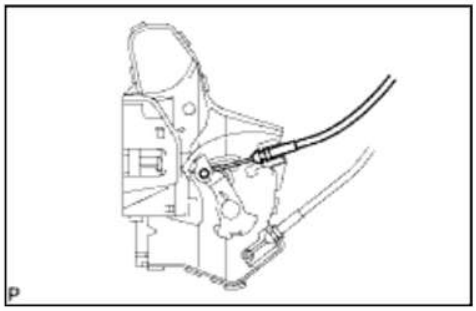
(b) Slide the front door lock assembly downward, and remove the front door lock assembly and cables as a unit.

(c) Remove the door lock wiring harness seal from the front door lock assembly.

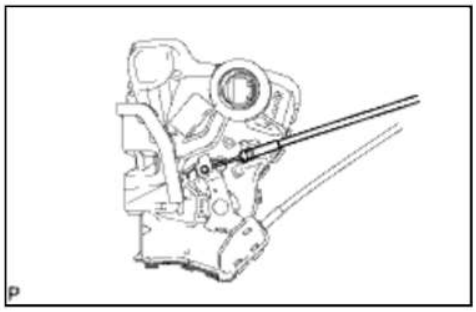
17. REMOVE FRONT DOOR LOCK REMOTE CONTROL CABLE ASSEMBLY (w/o Power Door Lock)

(a) Remove the front door lock remote control cable assembly.

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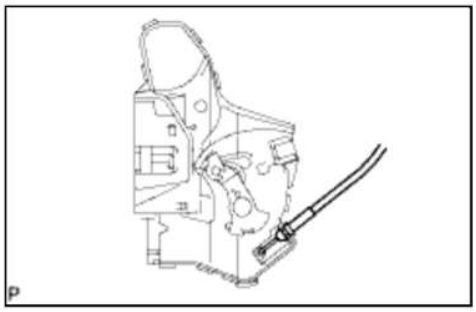


18. REMOVE FRONT DOOR LOCK REMOTE CONTROL CABLE ASSEMBLY (w/ Power Door Lock)



(a) Remove the front door lock remote control cable assembly.

19. REMOVE FRONT DOOR INSIDE LOCKING CABLE ASSEMBLY (w/o Power Door Lock)



(a) Remove the front door inside locking cable assembly.

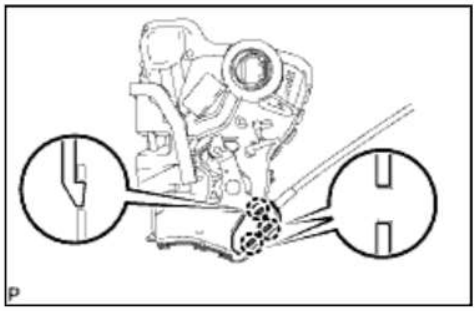
20. REMOVE FRONT DOOR INSIDE LOCKING CABLE ASSEMBLY (w/ Power Door Lock)

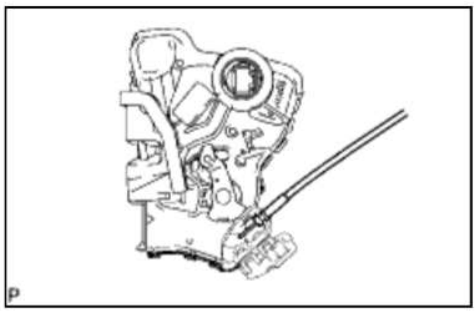
(a) Using a screwdriver, disengage the 3 claws.

HINT:

Tape the screwdriver tip before use.

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(b) Remove the front door inside locking cable assembly.

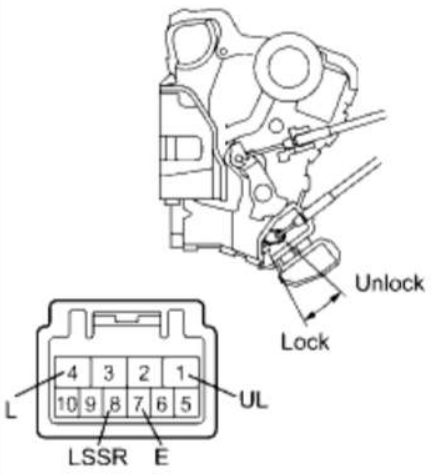
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Last Modified: 3-10-2010	6.4 G	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002XWS009X
Title: DOOR LOCK: FRONT DOOR LOCK: INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT FRONT DOOR LOCK ASSEMBLY (for Driver Side)

Component without harness connected:
(Front Door Lock Assembly (Driver Side))



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

OK:

MEASUREMENT CONDITION	SPECIFIED CONDITION
Battery positive (+) → 4 (L) Battery negative (-) → 1 (UL)	Lock
Battery positive (+) → 1 (UL) Battery negative (-) → 4 (L)	Unlock

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

(b) Measure the resistance of the door lock position switch.

Standard resistance:

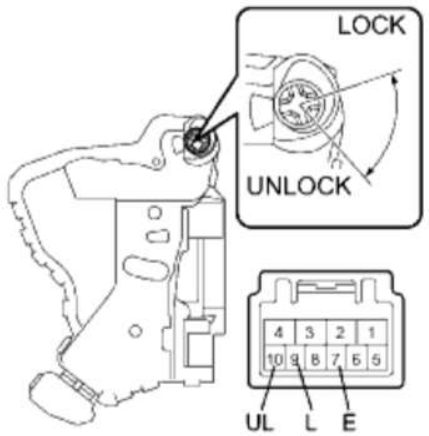
TESTER CONNECTION	MEASUREMENT CONDITION	DOOR LOCK CONDITION	SPECIFIED CONDITION
7 (E) - 8 (LSSR)	Battery positive (+) → Terminal 4 (L) Battery negative (-) → Terminal 1 (UL)	Lock	10 kΩ or higher
7 (E) - 8 (LSSR)	Battery positive (+) → Terminal 1 (UL) Battery negative (-) → Terminal 4 (L)	Unlock	Below 1 Ω

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

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

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Component without harness connected:
(Front Door Lock Assembly (Driver Side))



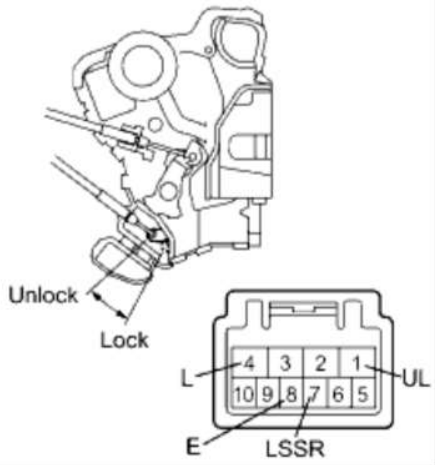
Standard resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
9 (L) - 7 (E)	ON (Door lock set to LOCK)	Below 1 Ω
9 (L) - 7 (E) 10 (UL) - 7 (E)	OFF (Free)	10 kΩ or higher
10 (UL) - 7 (E)	ON (Door lock set to UNLOCK)	Below 1 Ω

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

2. INSPECT FRONT DOOR LOCK ASSEMBLY (for Front Passenger Side)

Component without harness connected:
(Front Door Lock Assembly (Passenger Side))



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

OK:

MEASUREMENT CONDITION	SPECIFIED CONDITION
Battery positive (+) → Terminal 4 (L) Battery negative (-) → Terminal 1 (UL)	Lock
Battery positive (+) → Terminal 1 (UL) Battery negative (-) → Terminal 4 (L)	Unlock

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

(b) Measure the resistance of the door lock position switch. (w/ Wireless Door Lock System)

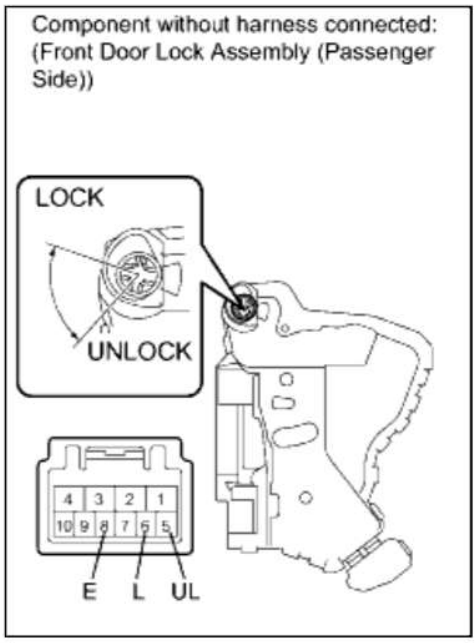
Standard resistance:

TESTER CONNECTION	MEASUREMENT CONDITION	DOOR LOCK CONDITION	SPECIFIED CONDITION

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TESTER CONNECTION	MEASUREMENT CONDITION	DOOR LOCK CONDITION	SPECIFIED CONDITION
7 (LSSR) - 8 (E)	Battery positive (+) → Terminal 4 (L) Battery negative (-) → Terminal 1 (UL)	LOCK	10 kΩ or higher
7 (LSSR) - 8 (E)	Battery positive (+) → Terminal 1 (UL) Battery negative (-) → Terminal 4 (L)	UNLOCK	Below 1 Ω

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



(c) Measure the resistance of the door key lock and unlock switch. (w/o Wireless Door Lock System)

Standard resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
6 (L) - 8 (E)	ON (Door lock set to LOCK)	Below 1 Ω
6 (L) - 8 (E) 5 (UL) - 8 (E)	OFF (Free)	10 kΩ or higher
5 (UL) - 8 (E)	ON (Door lock set to UNLOCK)	Below 1 Ω

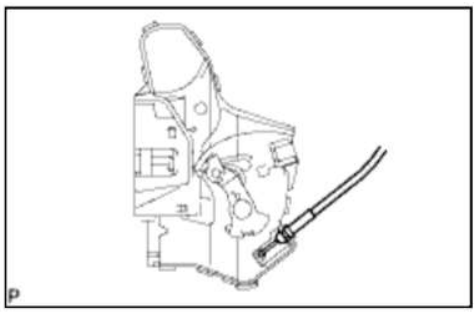
If the result is not as specified, replace the door lock assembly.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000011QG02UX
Title: DOOR LOCK: FRONT DOOR LOCK: INSTALLATION (2010 Corolla)		

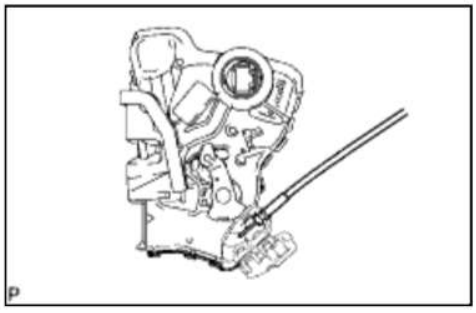
INSTALLATION

1. INSTALL FRONT DOOR INSIDE LOCKING CABLE ASSEMBLY (w/o Power Door Lock)

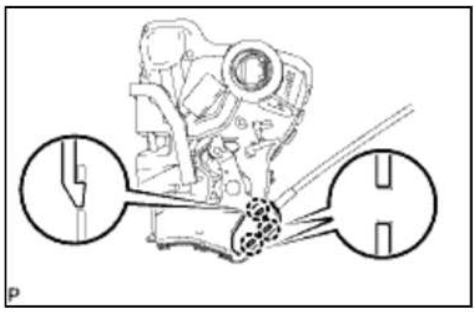


(a) Install the front door inside locking cable assembly.

2. INSTALL FRONT DOOR INSIDE LOCKING CABLE ASSEMBLY (w/ Power Door Lock)



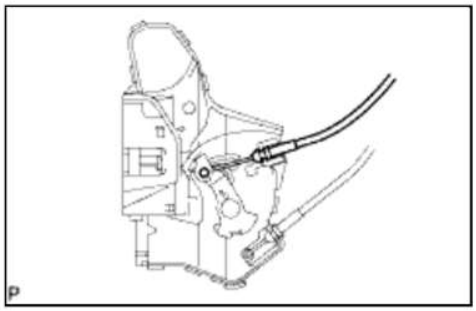
(a) Install the front door inside locking cable assembly.



(b) Engage the 3 claws.

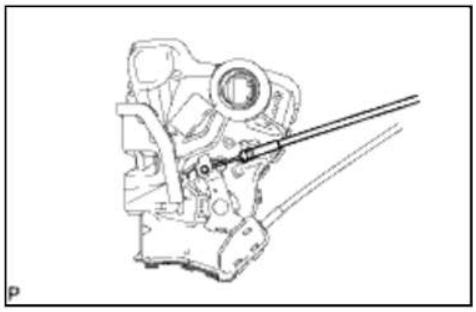
3. INSTALL FRONT DOOR LOCK REMOTE CONTROL CABLE ASSEMBLY (w/o Power Door Lock)

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(a) Install the front door lock remote control cable assembly.

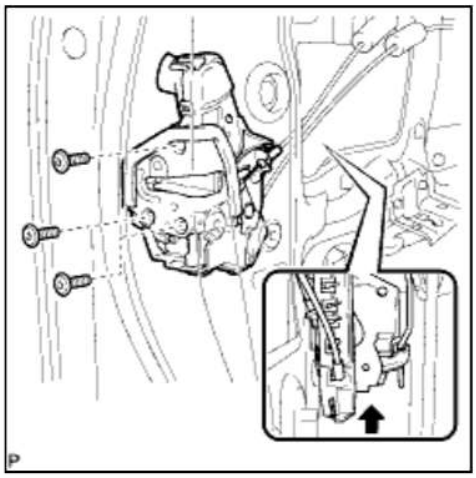
4. INSTALL FRONT DOOR LOCK REMOTE CONTROL CABLE ASSEMBLY (w/ Power Door Lock)



(a) Install the front door lock remote control cable assembly.

5. INSTALL FRONT DOOR LOCK ASSEMBLY (w/o Power Door Lock)

(a) Apply MP grease to the sliding parts of the front door lock assembly.



(b) Insert the front door lock open rod to the front door lock assembly.

(c) Make sure that the front door lock open rod is securely connected to the front door lock assembly.

(d) Using a "TORX" socket wrench (T30), install the front door lock assembly with the 3 screws.

Torque: 5.0 N·m (51 kgf·cm, 44in·lbf)

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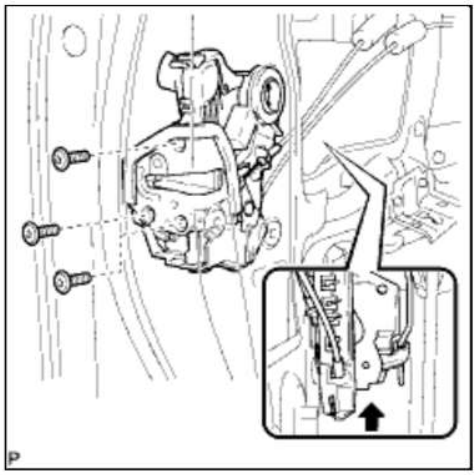
6. INSTALL FRONT DOOR LOCK ASSEMBLY (w/ Power Door Lock)

NOTICE:

- When reusing the removed front door lock assembly, replace the door lock wiring harness seal on the connector with a new one.
- Do not allow grease or dust to adhere to the door lock wiring harness seal surface of the connector.
- Reusing the door lock wiring harness seal or using a damaged door lock wiring harness seal may cause water intrusion. This may result in a malfunction of the front door lock assembly.

(a) Apply MP grease to the sliding parts of the front door lock assembly.

(b) Install a new door lock wiring harness seal to the front door lock assembly.



(c) Insert the front door lock open rod to the front door lock assembly.

(d) Make sure that the front door lock open rod is securely connected to the front door lock assembly.

(e) Using a "TORX" socket wrench (T30), install the front door lock assembly with the 3 screws.

Torque: 5.0 N·m (51 kgf·cm, 44in·lbf)

7. INSTALL FRONT DOOR OUTSIDE HANDLE COVER INFO

8. INSTALL FRONT DOOR REAR LOWER FRAME SUB-ASSEMBLY INFO

9. INSTALL FRONT DOOR GLASS RUN INFO

10. INSTALL FRONT DOOR NO. 2 STIFFENER CUSHION INFO

11. INSTALL FRONT DOOR GLASS SUB-ASSEMBLY INFO

12. INSTALL FRONT DOOR SERVICE HOLE COVER INFO

13. INSTALL FRONT DOOR TRIM BRACKET INFO

14. INSTALL FRONT DOOR INNER GLASS WEATHERSTRIP INFO

15. INSTALL FRONT DOOR INSIDE HANDLE SUB-ASSEMBLY INFO

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16. INSTALL FRONT DOOR TRIM BOARD SUB-ASSEMBLY INFO

17. INSTALL FRONT ARMREST UPPER BASE PANEL (w/o Power Window) INFO

18. INSTALL FRONT ARMREST UPPER BASE PANEL (w/ Power Window) INFO

19. INSTALL FRONT DOOR INSIDE HANDLE BEZEL INFO

20. INSTALL FRONT DOOR WINDOW REGULATOR HANDLE ASSEMBLY (w/o Power Window) INFO



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Last Modified: 3-10-2010	6.4 L	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001WGA011X
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: PRECAUTION (2010 Corolla)		

PRECAUTION

1. PRECAUTION FOR KEY REMINDER WARNING SYSTEM

(a) For the inspection procedure of the key reminder warning system for models equipped with the smart key system, refer to the Smart Key System INFO .

2. PRECAUTIONS WHEN USING TECHSTREAM

(a) When using the Techstream to troubleshoot: Connect the Techstream to the vehicle while the ignition switch is off, and turn a courtesy light switch on and off at 1.5-second intervals until communication between the Techstream and the vehicle begins.

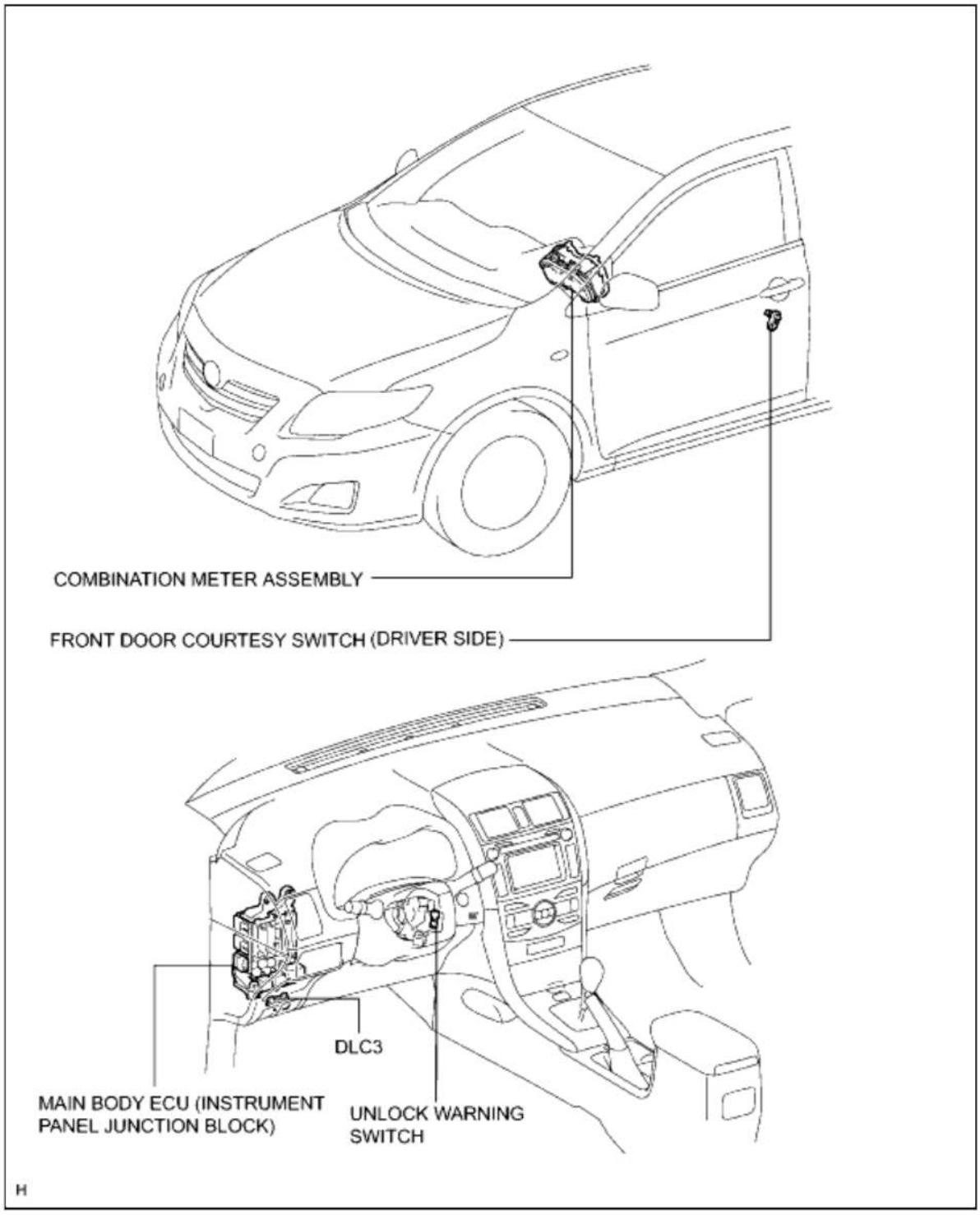
(b) After all DTCs are cleared, check if the trouble occurs again 6 seconds after the ignition switch is turned to ON.

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Last Modified: 3-10-2010	6.4 R	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000028WF00SX
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: PARTS LOCATION (2010 Corolla)		

PARTS LOCATION

ILLUSTRATION



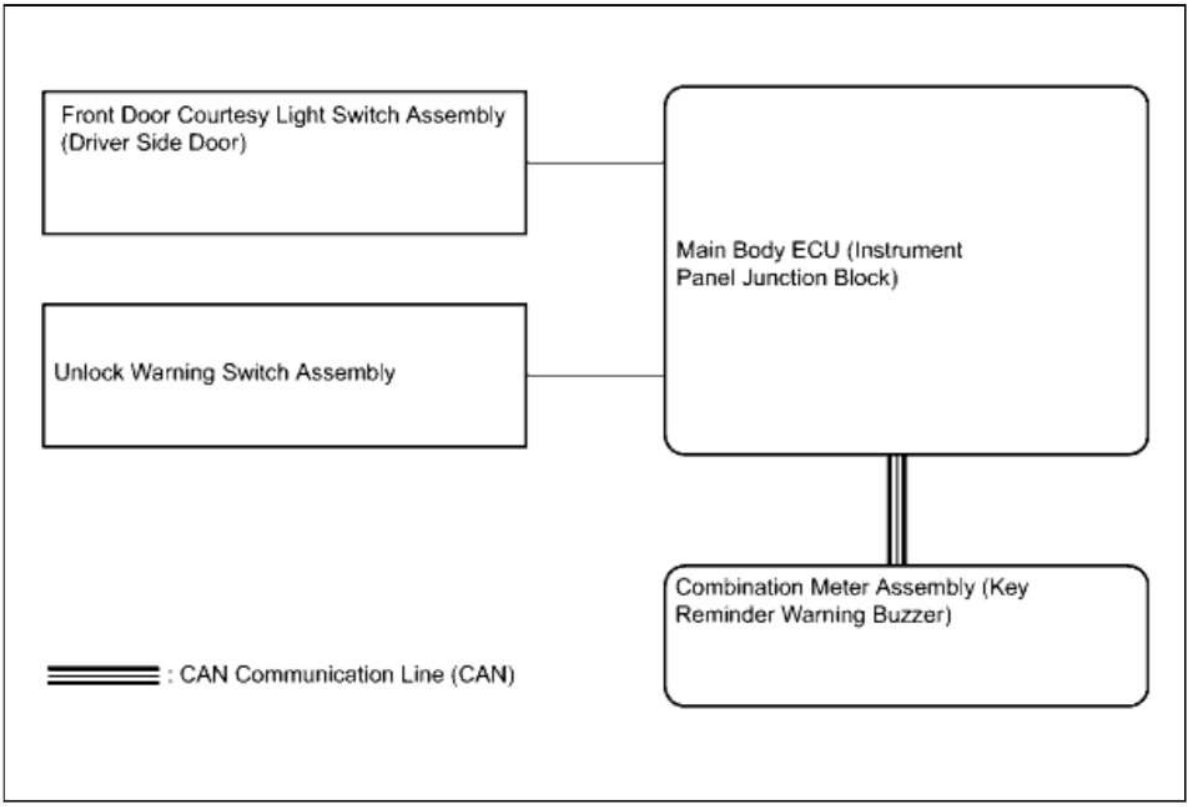
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Last Modified: 3-10-2010	6.4 U	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000013P0020X
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: SYSTEM DIAGRAM (2010 Corolla)		

SYSTEM DIAGRAM



Main Body ECU

TRANSMITTING ECU	RECEIVING ECU	SIGNAL	COMMUNICATION METHOD
Main Body ECU (Instrument Panel Junction Block)	Combination Meter Assembly	Driver side door courtesy light switch signal	CAN
Main Body ECU (Instrument Panel Junction Block)	Combination Meter Assembly	Unlock warning switch signal	CAN

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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000011G202KX
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: HOW TO PROCEED WITH TROUBLESHOOTING (2010 Corolla)		

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

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

1.	**VEHICLE BROUGHT TO WORKSHOP**

NEXT

2.	**CUSTOMER PROBLEM ANALYSIS**

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:

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

NEXT

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3.	INSPECT BATTERY VOLTAGE

(a) Measure the battery voltage.

Standard Voltage:
11 to 14 V

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

NEXT

4.	INSPECT FUNCTION OF CAN COMMUNICATION SYSTEM*

(a) Using the Techstream, inspect the CAN communication function to ensure that there are no malfunctions in the communication system.

Result:

RESULT	PROCEED TO
DTC is not output.	A
DTC is output.	B

B INFO **GO TO CAN COMMUNICATION SYSTEM**

A

5.	PROBLEM SYMPTOMS TABLE

(a) Refer to Problem Symptoms Table INFO.

Result:

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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

▼

6.	OVERALL ANALYSIS AND TROUBLESHOOTING*

(a) Data List / Active Test INFO

(b) Terminals of ECU INFO

(c) Operation Check INFO

NEXT

▼

7.	REPAIR OR REPLACE

NEXT

▼

8.	CONFIRMATION TEST

NEXT ▶ **END**

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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000011G6025X
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: SYSTEM DESCRIPTION (2010 Corolla)		

SYSTEM DESCRIPTION

1. KEY REMINDER WARNING SYSTEM DESCRIPTION

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

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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM00000133202FX
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: OPERATION CHECK (2010 Corolla)		

OPERATION CHECK

1. CHECK FUNCTION

(a) Check that the key reminder warning buzzer sounds.

(1) With the driver side door closed, insert the key into the ignition key cylinder and then make sure that the key is in LOCK or ACC.

(2) Check that the buzzer sounds intermittently if the driver side door is opened.

(b) Check that the key reminder warning buzzer stops.

(1) Check that the buzzer stops sounding if any of the following operations is performed while the buzzer is sounding:

- Close the driver side door (front door courtesy light switch is off).
- Turn the ignition switch to ON.
- Pull out the key from the ignition key cylinder.



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Last Modified: 3-10-2010	6.4 T	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000027RB012X
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: PROBLEM SYMPTOMS TABLE (2010 Corolla)		

PROBLEM SYMPTOMS TABLE

HINT:

- Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, 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.

Key Reminder Warning System

SYMPTOM	SUSPECTED AREA	SEE PAGE
Key Reminder Buzzer does not Sound.	Combination meter assembly	INFO
	Main body ECU (instrument panel junction block)	-
	Front door courtesy light switch assembly (driver side)	-
	Unlock warning switch assembly	-
	Wire harness or connector	-

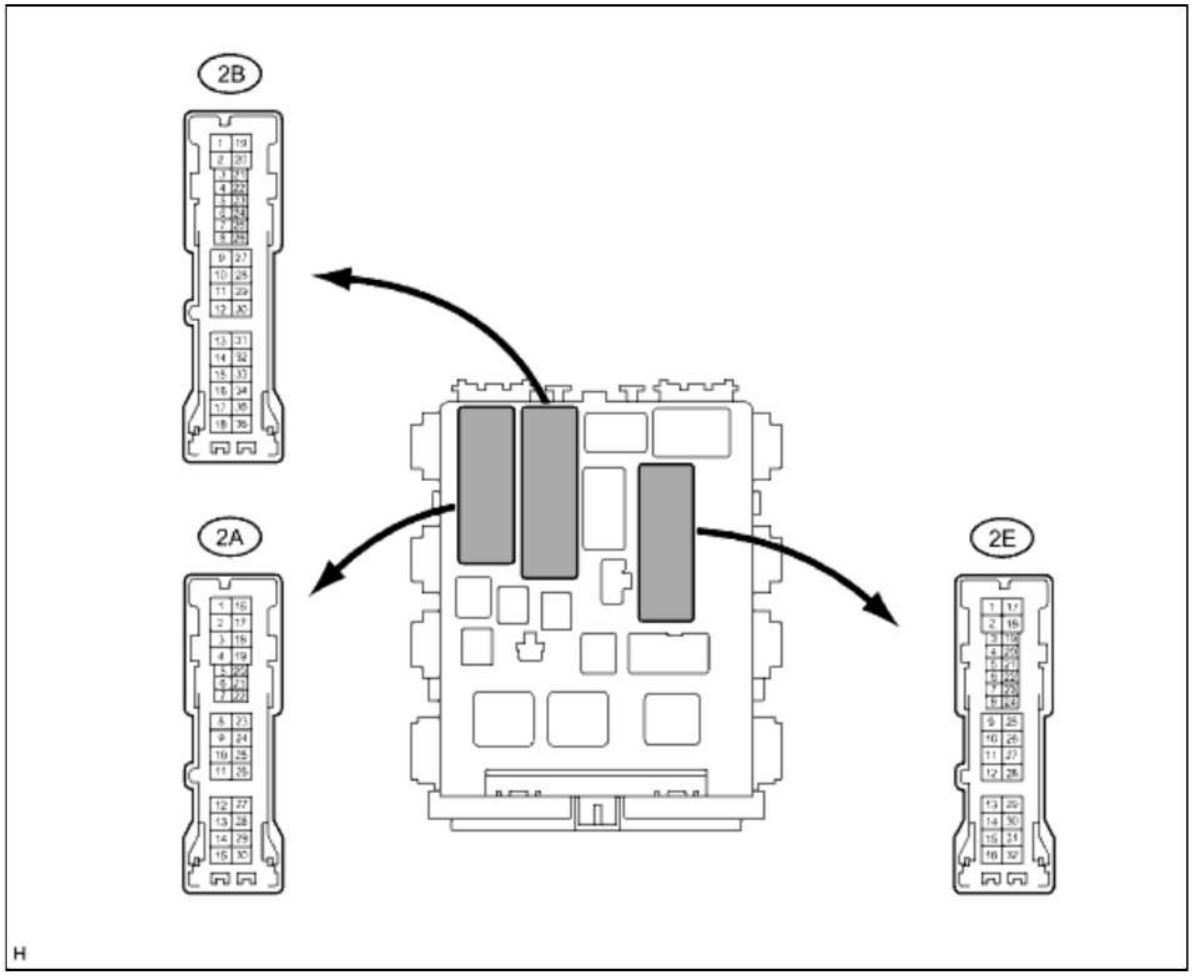
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Last Modified: 3-10-2010	6.4 U	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000011G402FX
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: TERMINALS OF ECU (2010 Corolla)		

TERMINALS OF ECU

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

(a) Disconnect the 2A, 2B and 2E junction block connectors.



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

TESTER CONNECTION	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
2E-17 (GND1) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω
2B-30 (BECU) - Body ground	W - Body ground	Power Source	Always	11 to 14 V

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TESTER CONNECTION	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
2A-21 (DCTY) - Body ground	W - Body ground*1 V - Body ground*2	Driver door courtesy light switch signal	Switch pushed (Door closed)	10 kΩ or higher
2A-21 (DCTY) - Body ground	W - Body ground*1 V - Body ground*2	Driver door courtesy light switch signal	Switch free (Door open)	Below 1 Ω
2E-23 (KSW) - Body ground	L - Body ground	Key unlock warning switch signal	No key is in ignition key cylinder	10 kΩ or higher
2E-23 (KSW) - Body ground	L - Body ground	Key unlock warning switch signal	Key is in ignition key cylinder	Below 1 Ω

- *1: for TMC Made
- *2: Except for TMC made

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

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Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001PD901BX
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: Key Reminder Buzzer does not Sound (2010 Corolla)		

Key Reminder Buzzer does not Sound

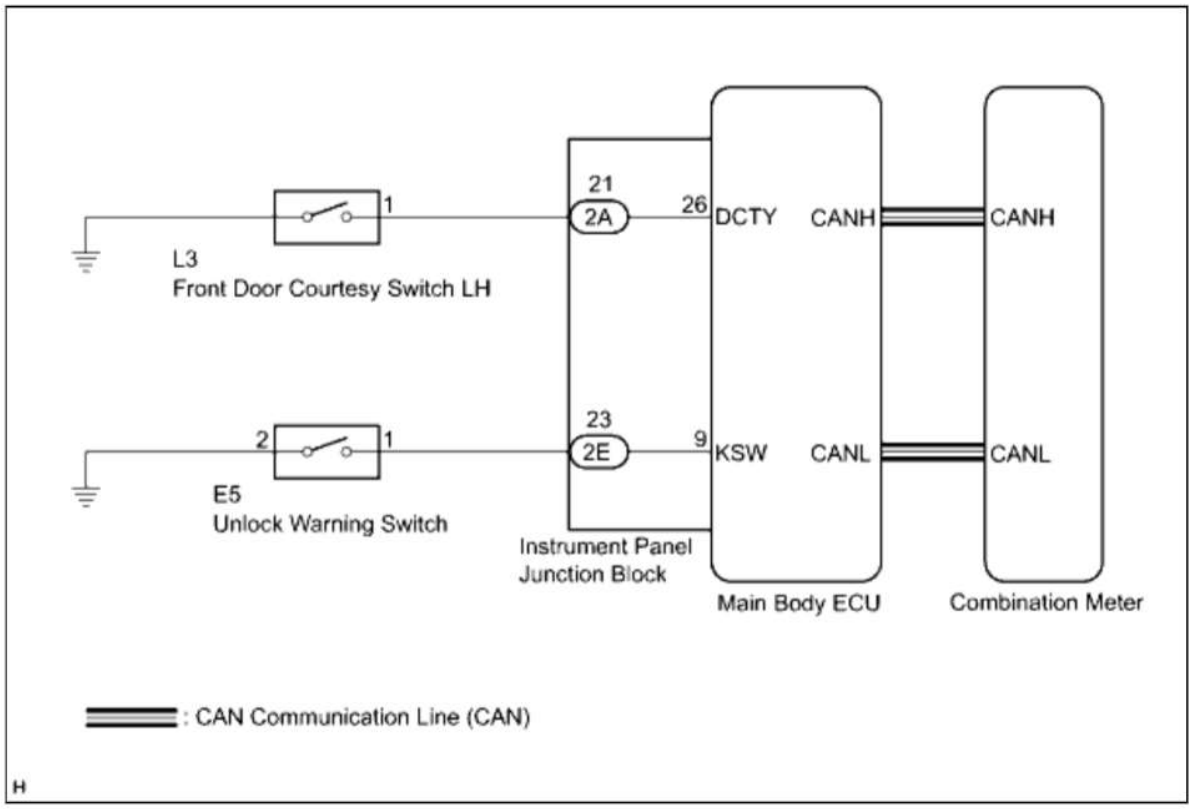
DESCRIPTION

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

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 functions in accordance with the How to Proceed with Troubleshooting procedure. Then, conduct the following inspection procedure.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

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1.	CHECK COMBINATION METER ASSEMBLY (BUZZER OPERATION)

(a) Turn the ignition switch to ON. Place luggage on the passenger seat to cause the passenger seat belt warning light to blink.

(b) When driving the vehicle at 15 km/h (9 mph) or higher, check that the seat belt warning buzzer sounds to inform that the passenger seat belt is not fastened.

HINT:

The key reminder warning system sounds the buzzer built into the combination meter as a key reminder warnings. This buzzer is also used for the seat belt warning system. Therefore, check the operation of the combination meter buzzer by checking if the buzzer sounds to inform that the seat belt is not fastened.

OK:
Combination meter buzzer sounds.

NG ▶ **REPLACE COMBINATION METER ASSEMBLY**

OK ▼

2.	READ VALUE USING TECHSTREAM (DOOR COURTESY SWITCH)

(a) Connect the Techstream to the DLC3.

(b) Turn the ignition switch to ON.

(c) Turn the Techstream on.

(d) Enter the following menus: Body Electrical / Main Body / Data List.

(e) Select D Door Courtesy SW in the Data List and read the Techstream display.

Main Body

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
D Door Courtesy SW	Driver side door courtesy switch signal/ON or OFF	ON: Driver side door is open OFF: Driver side door is closed	-

OK:
ON or OFF appears on the screen according to the driver side door condition.

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NG ▶ **INSPECT FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY (DRIVER SIDE)**

OK ▼

3.	READ VALUE USING TECHSTREAM (UNLOCK WARNING SWITCH)

(a) Connect the Techstream to the DLC3.

(b) Turn the ignition switch to ON.

(c) Turn the Techstream on.

(d) Enter the following menus: Body Electrical / Main Body / Data List.

(e) Select Key Unlock Warning SW in the Data List and read the Techstream display.

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	-

OK:
ON or OFF appears on the screen according to whether the key is in the ignition key cylinder.

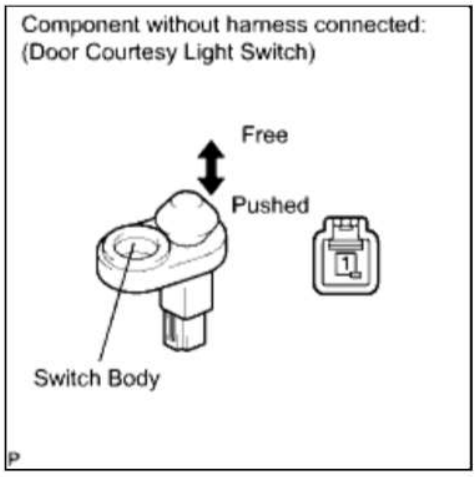
NG ▶ **INSPECT UNLOCK WARNING SWITCH ASSEMBLY**

OK ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

4.	INSPECT FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY (DRIVER SIDE)

(a) Remove the driver side front door courtesy light switch (driver side) INFO .

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

Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
1 - Switch body	Courtesy switch pushed (Door closed)	10 kΩ or higher
1 - Switch body	Courtesy switch free (Door open)	Below 1 Ω

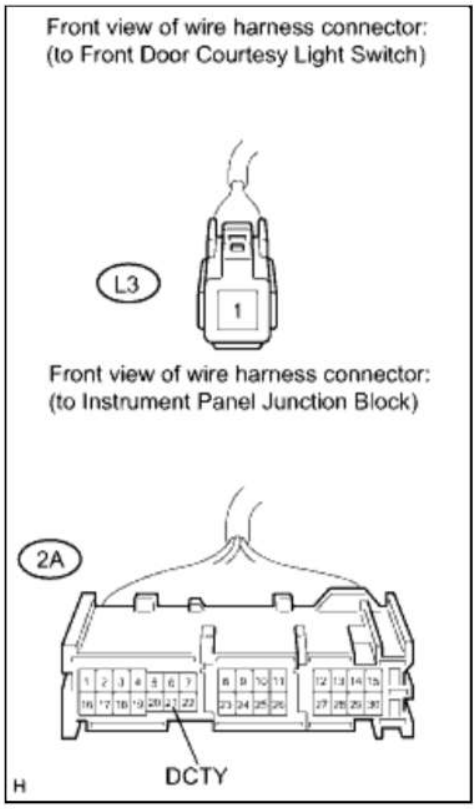
NG ▶ **REPLACE FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY (DRIVER SIDE)**

OK ▼

5.	**CHECK HARNESS AND CONNECTOR (FRONT DOOR COURTESY LIGHT SWITCH - MAIN BODY ECU)**

(a) Disconnect the 2A instrument panel junction block connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L3-1 - 2A-21 (DCTY)	Always	Below 1 Ω
L3-1 - Body ground	Always	10 kΩ or higher

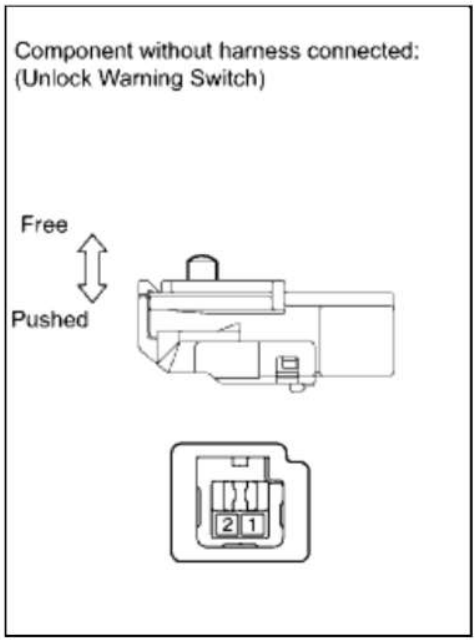
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

6.	**INSPECT UNLOCK WARNING SWITCH ASSEMBLY**

(a) Remove the unlock warning switch assembly INFO .

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

Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
1 - 2	Switch free (Key removed)	10 kΩ or higher
1 - 2	Switch pushed (Key set)	Below 1 Ω

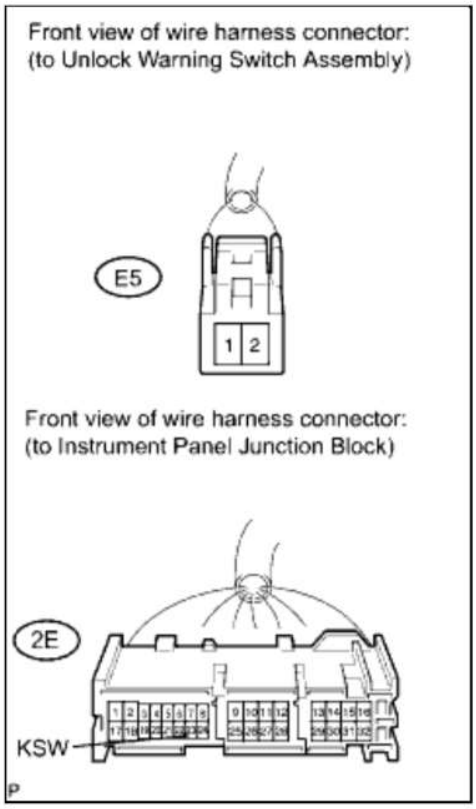
NG ▶ **REPLACE UNLOCK WARNING SWITCH ASSEMBLY**

OK ▼

7.	CHECK HARNESS AND CONNECTOR (UNLOCK WARNING SWITCH - MAIN BODY ECU)

(a) Disconnect the 2E instrument panel junction block connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E5-1 - 2E-23 (KSW)	Always	Below 1 Ω
E5-2 - Body ground	Always	Below 1 Ω
E5-1 - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000011G7023X
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: DIAGNOSIS SYSTEM (2010 Corolla)		

DIAGNOSIS SYSTEM

1. CHECK DLC3

(a) Check the DLC3 INFO .

2. INSPECT BATTERY VOLTAGE

(a) Measure the battery voltage.

Standard Voltage:
11 to 14 V

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

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Last Modified: 3-10-2010	6.4 U	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000011WG02FX
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: DATA LIST / ACTIVE TEST (2010 Corolla)		

DATA LIST / ACTIVE TEST

1. READ DATA LIST

HINT:

Using the 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.

NOTICE:

In the following table, 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 to ON.

(c) Turn the Techstream on.

(d) Enter the following menus: Body Electrical / Main Body / Data List.

(e) Read the Data List according to the display on the Techstream.

Main Body

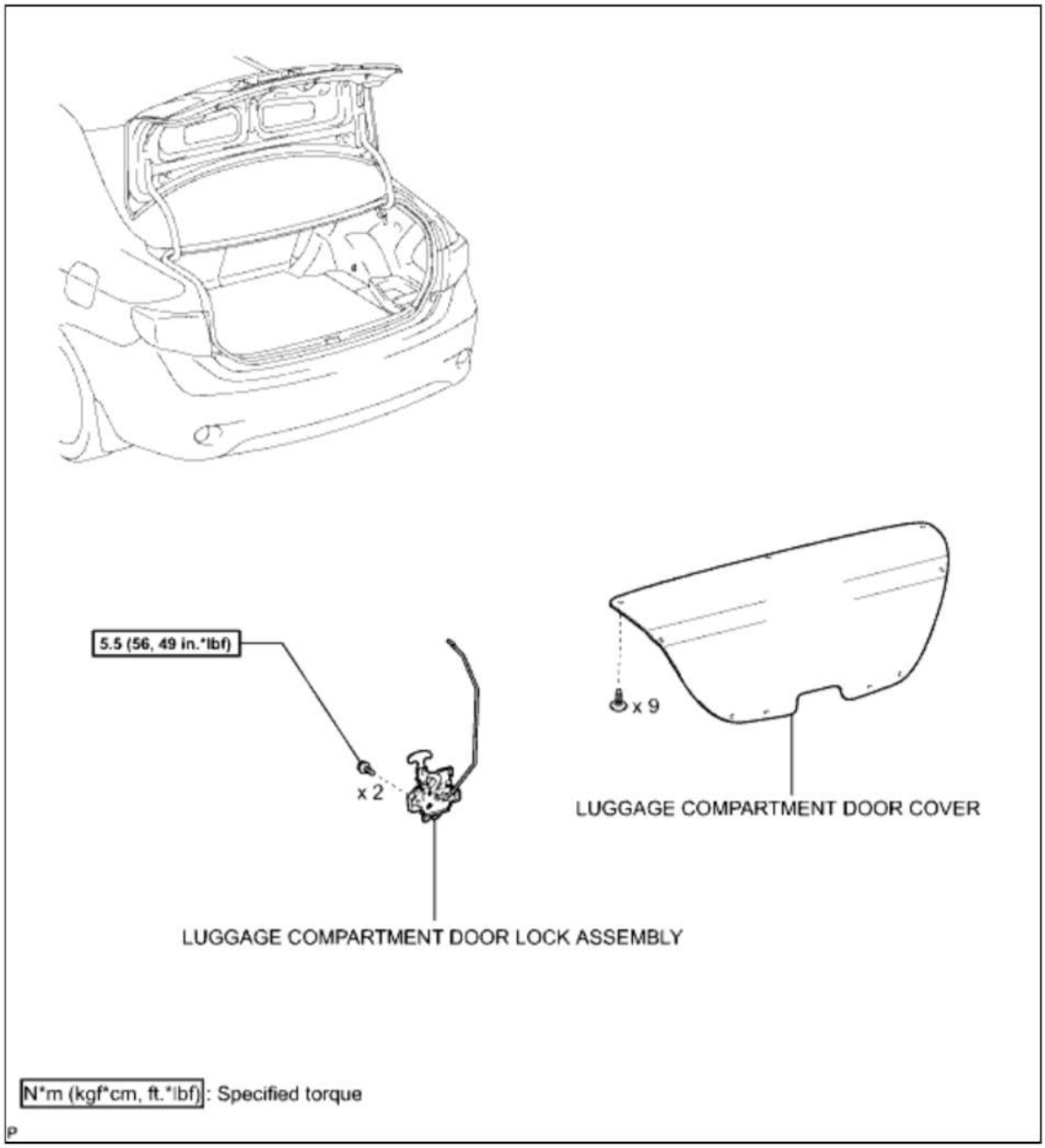
TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Key Unlock Warning SW	Unlock warning switch signal/ON or OFF	ON: Key is in ignition key cylinder OFF: No key is in ignition key cylinder	-
D Door Courtesy SW	Driver side door courtesy switch signal/ON or OFF	ON: Driver side door is open OFF: Driver side door is closed	-

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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002Y9P00GX
Title: DOOR LOCK: LUGGAGE COMPARTMENT DOOR LOCK: COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION



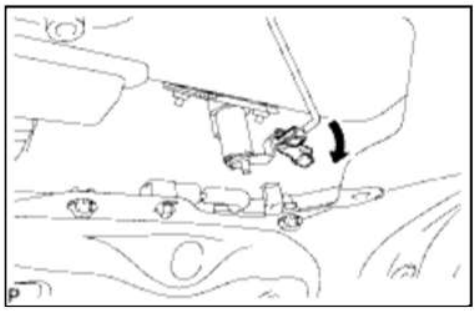
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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002Y9Q00GX
Title: DOOR LOCK: LUGGAGE COMPARTMENT DOOR LOCK: REMOVAL (2010 Corolla)		

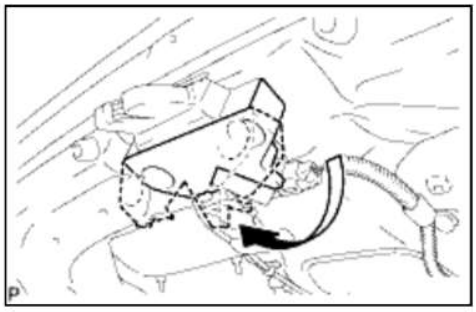
REMOVAL

1. REMOVE LUGGAGE COMPARTMENT DOOR COVER

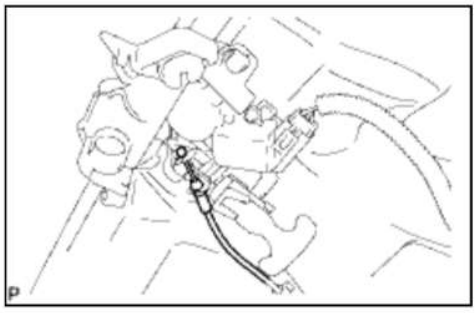
2. REMOVE LUGGAGE COMPARTMENT DOOR LOCK ASSEMBLY (w/o Smart Key System)



(a) Disconnect the rod as shown in the illustration.



(b) Raise the cover of the luggage compartment door lock as shown in the illustration.

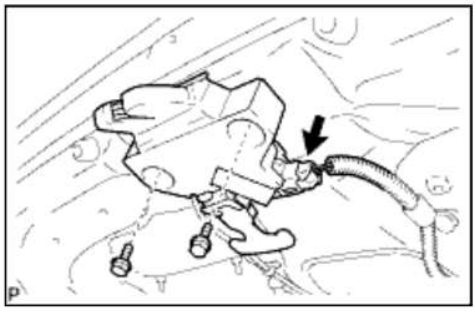


(c) Disconnect the luggage door lock control cable sub-assembly.

(d) Return the cover of the luggage compartment door lock to its original position.

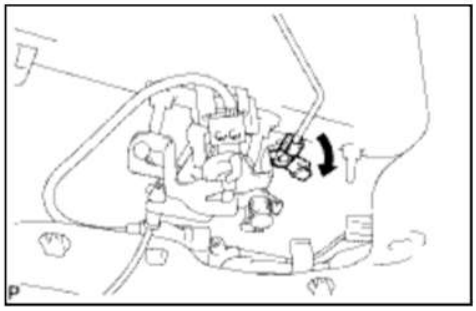
(e) Disconnect the connector.

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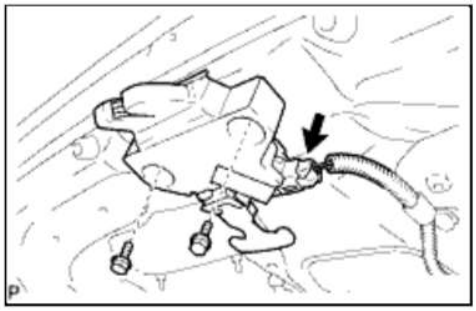


(f) Remove the 2 bolts and luggage compartment door lock assembly.

3. REMOVE LUGGAGE COMPARTMENT DOOR LOCK ASSEMBLY (w/ Smart Key System)



(a) Disconnect the rod as shown in the illustration.



(b) Disconnect the connector.

(c) Remove the 2 bolts and luggage compartment door lock assembly.

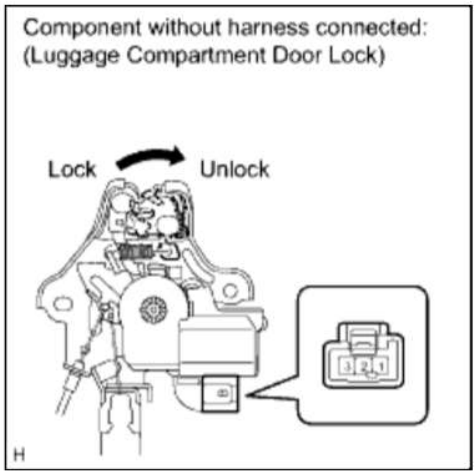
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Last Modified: 3-10-2010	6.4 G	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002KTM011X
Title: DOOR LOCK: LUGGAGE COMPARTMENT DOOR LOCK: INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT LUGGAGE COMPARTMENT DOOR LOCK

(a) Check operation of the door lock motor.



(1) Move the door lock to the lock position.

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

OK:

MEASUREMENT CONDITION	SPECIFIED CONDITION
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 2	Unlock

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

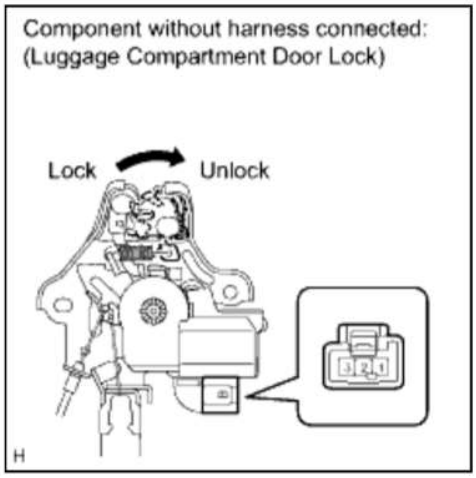
(b) Check operation of the door courtesy switch.

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

Standard resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
2 - 3	Unlock	Below 1 Ω
2 - 3	Lock	10 kΩ or higher

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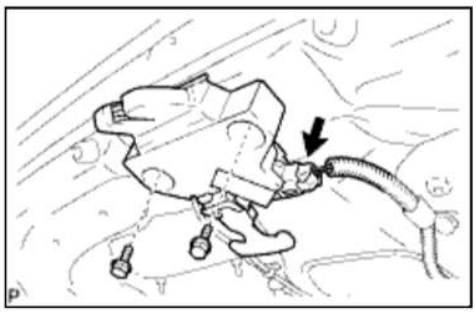
If the result is not as specified, replace the luggage compartment door lock assembly.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002Y9O00GX
Title: DOOR LOCK: LUGGAGE COMPARTMENT DOOR LOCK: INSTALLATION (2010 Corolla)		

INSTALLATION

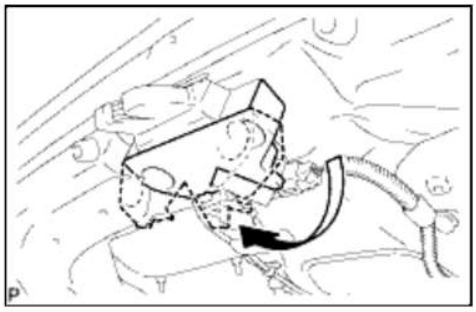
1. INSTALL LUGGAGE COMPARTMENT DOOR LOCK ASSEMBLY (w/o Smart Key System)



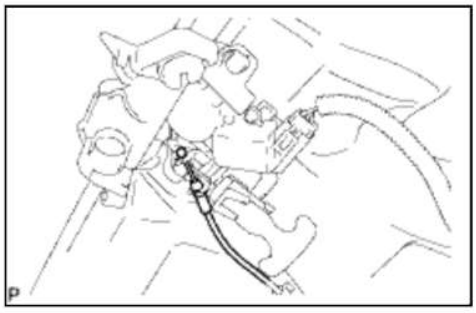
(a) Install the luggage compartment door lock assembly with the 2 bolts.

Torque: 5.5 N·m (56 kgf·cm, 49in·lbf)

(b) Connect the connector.



(c) Raise the cover of the luggage compartment door lock as shown in the illustration.

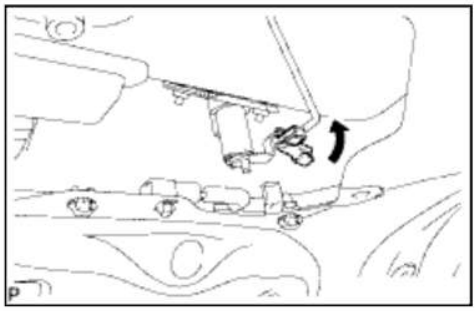


(d) Connect the luggage door lock control cable subassembly.

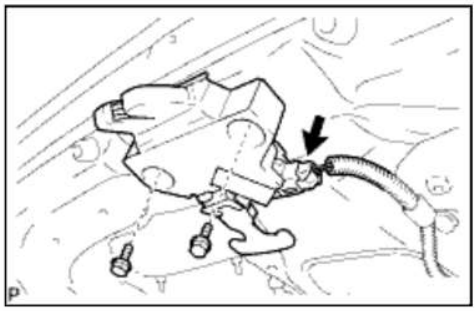
(e) Return the cover of the luggage compartment door lock to its original position.

(f) Connect the rod as shown in the illustration.

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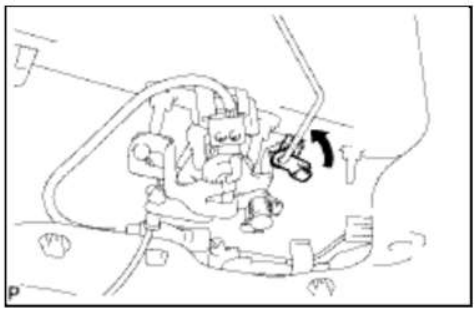
2. INSTALL LUGGAGE COMPARTMENT DOOR LOCK ASSEMBLY (w/ Smart Key System)



(a) Install the luggage compartment door lock assembly with the 2 bolts.

Torque: 5.5 N·m (56 kgf·cm, 49in·lbf)

(b) Connect the connector.



(c) Connect the rod as shown in the illustration.

3. INSTALL LUGGAGE COMPARTMENT DOOR COVER

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Last Modified: 3-10-2010	6.4 L	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000003GBK003X
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: PRECAUTION (2010 Corolla)		

PRECAUTION

1. EXPRESSIONS OF IGNITION SWITCH

(a) The type of ignition switch used on this model differs according to the specifications of the vehicle.

The expressions listed in the table below are used in this section.

SWITCH TYPE		IGNITION SWITCH (POSITION)	ENGINE SWITCH (CONDITION)
Expression	Ignition switch off	LOCK	Off
	Ignition switch ON	ON	On (IG)
	Ignition switch ACC	ACC	On (ACC)
	Engine Start	START	Start

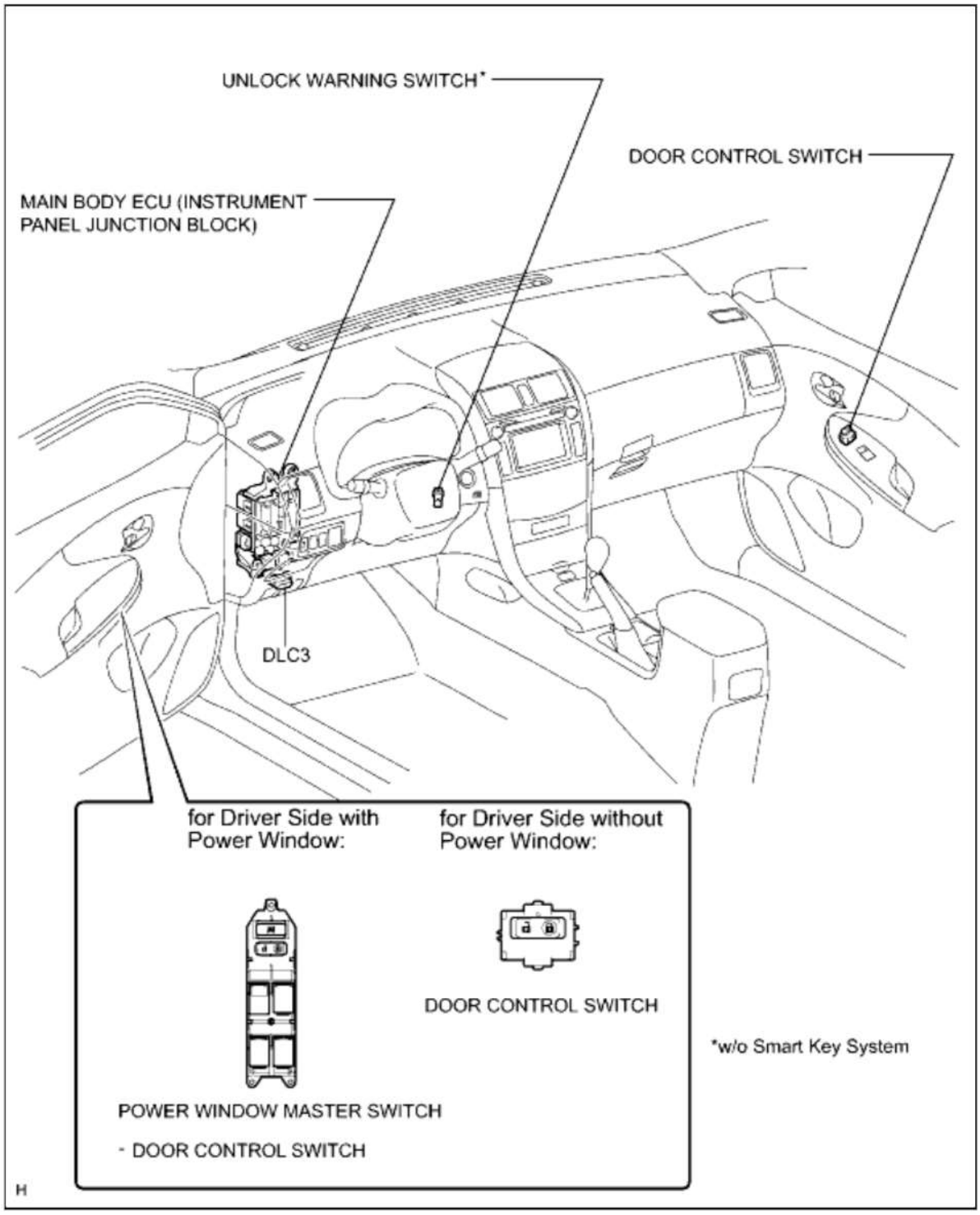


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Last Modified: 3-10-2010	6.4 R	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000011GA028X
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: PARTS LOCATION (2010 Corolla)		

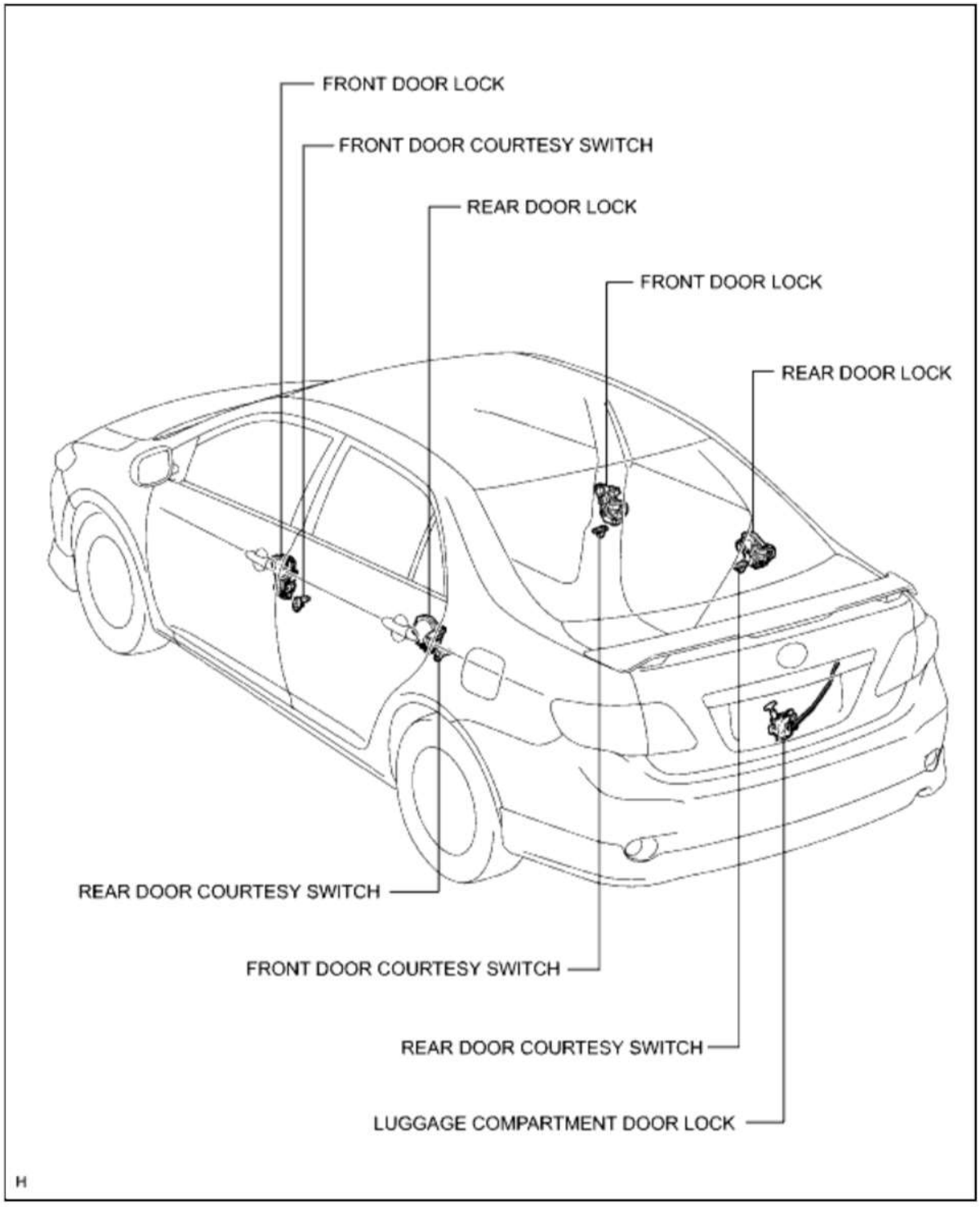
PARTS LOCATION

ILLUSTRATION



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ILLUSTRATION



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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000011GD028X
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: SYSTEM DESCRIPTION (2010 Corolla)		

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 (instrument panel junction block). Then, the main body ECU (instrument panel junction block) 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 request signals to lock/unlock the doors to the main body ECU (instrument panel junction block).

2. FUNCTION OF MAIN COMPONENT

COMPONENT	FUNCTION
Power window master switch	Door control switch on master switch locks/unlocks all doors.
Door courtesy switch	Placed on each door. Detects door status (open or closed) and outputs data to main body ECU (instrument panel junction block). Turns on when door is open and turns off when door is closed.
Driver side door lock	• Built-in motor locks/unlocks door. • Built-in door control switch (key-linked) detects door key operation door status (locked or unlocked) and outputs data to main body ECU (instrument panel junction block). • Built-in position switch detects door status (locked or unlocked) and outputs data to main body ECU (instrument panel junction block). This switch turns off when door is locked and turns on when door is unlocked.
Passenger side door lock	• Built-in motor locks/unlocks door. • Built-in door control switch*1 (key-linked) detects door key operation's door status (locked or unlocked) and outputs data to main body ECU (instrument panel junction block). • Built-in position switch detects door status (locked or unlocked) and outputs data to main body ECU (instrument panel junction block). This switch turns off when door is locked and turns on when door is unlocked.
Rear LH and RH door locks	• Built-in motor locks/unlocks door. • Built-in position switch*2 detects door status (locked or unlocked) and outputs data to main body ECU (instrument panel junction block). This switch turns off when door is locked and turns on when door is

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COMPONENT	FUNCTION
	unlocked.
Luggage compartment door lock	Built-in luggage door open motor.

- *1: w/o Wireless Door Lock System
- *2: w/ Smart Key System

3. SYSTEM FUNCTION

(a) This system is controlled by the main body ECU (instrument panel junction block). The main body ECU (instrument panel junction block) outputs signals to each door lock motor. The vehicle door lock control system has the following functions:

FUNCTION	OUTLINE
Manual lock and unlock function	This function can lock or unlock all doors by the door lock control switch operation.
Key-linked lock and unlock function	This function, which is linked with the mechanical key cylinder, can lock or unlock all the doors.
Manual unlock prohibition function	Performing the door lock operation with an electrical key*1 or a mechanical key*2 or key linked operation will prohibit the unlock operation by the door lock control switch.
Key lock-in prevention function	If each door lock*1 or driver's door lock*2 and passenger's door lock*3 operation is performed when the electrical key*1 or mechanical key*2 is in the cabin*1 or ignition key cylinder*2, all the doors will be unlocked.
Shift-linked automatic door lock function (A/T)	When the conditions listed below are met consecutively, this function causes all the doors to be automatically locked. • All doors are closed. • The engine is started. • The shift lever is moved out of P.
Shift-linked automatic door unlock function (A/T)	If the shift lever is moved out of P after the engine is started, all the doors will be automatically unlocked.
2-step unlock function	This function is provided to unlock the driver's door by turning the key cylinder once and to unlock the remaining doors by turning it twice.
Speed-sensitive automatic door lock function*3	When the conditions listed below are met consecutively, this function causes all the doors to be automatically locked. • Vehicle speed is higher than approximately 20 km/h (12 mph). • All doors are closed. • Any one of the door's is unlocked.

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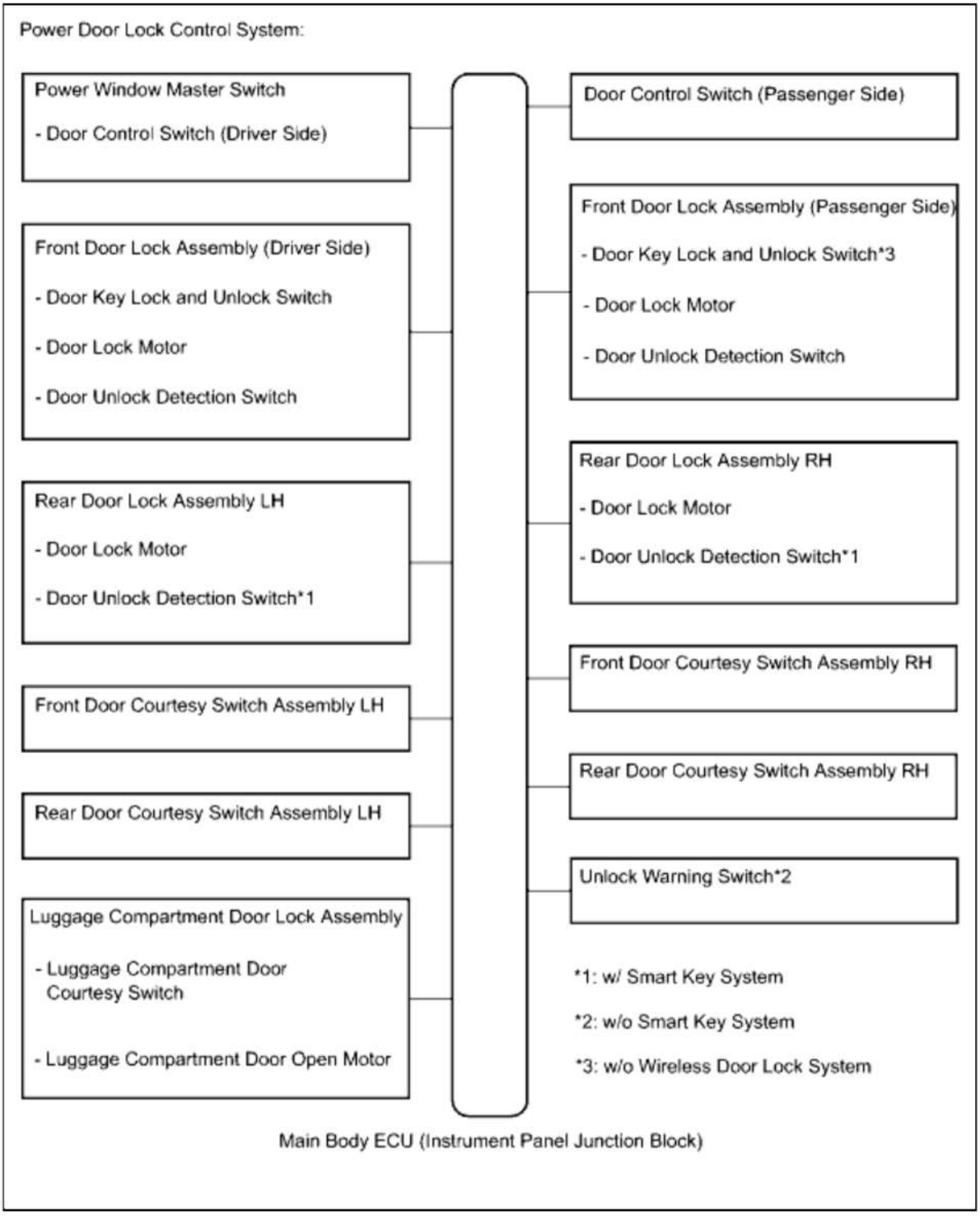
FUNCTION	OUTLINE
Opening driver's door-linked automatic door unlock*4	All doors are unlocked automatically when the driver's door is opened within 10 seconds after the power source is changed from "IG-ON" to "ACC" or "OFF".

- *1: w/ Smart Key System
- *2: w/o Smart Key System
- *3: w/o Wireless Door Lock Control System
- *4: Default setting is OFF

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Last Modified: 3-10-2010	6.4 U	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000011GF028X
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: SYSTEM DIAGRAM (2010 Corolla)		

SYSTEM DIAGRAM



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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000011G902UX
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: HOW TO PROCEED WITH TROUBLESHOOTING (2010 Corolla)		

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- Use the following procedure to troubleshoot the power door lock control system.
- The Techstream should be used in step 5.

1.	**VEHICLE BROUGHT TO WORKSHOP**

NEXT

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:

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

NEXT

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3.	INSPECT BATTERY VOLTAGE

(a) Measure the battery voltage.

Standard voltage:
11 to 14 V

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

NEXT

4.	PROBLEM SYMPTOMS TABLE

Result:

RESULT	PROCEED TO
Fault is not listed in problem symptoms table	A
Fault is listed in problem symptoms table	B

B ▶ **GO TO STEP 6**

A

5.	OVERALL ANALYSIS AND TROUBLESHOOTING

(a) Terminals of ECU INFO

(b) Data List / Active Test INFO

(c) Operation Check INFO

NEXT

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▼

6.	REPAIR OR REPLACE

NEXT
▼

7.	CONFIRMATION TEST

NEXT ▶ END

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Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000TO502IX
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: All Doors LOCK / UNLOCK Functions do not Operate Via Master Switch, Both Front Door Key Cylinders (2010 Corolla)		

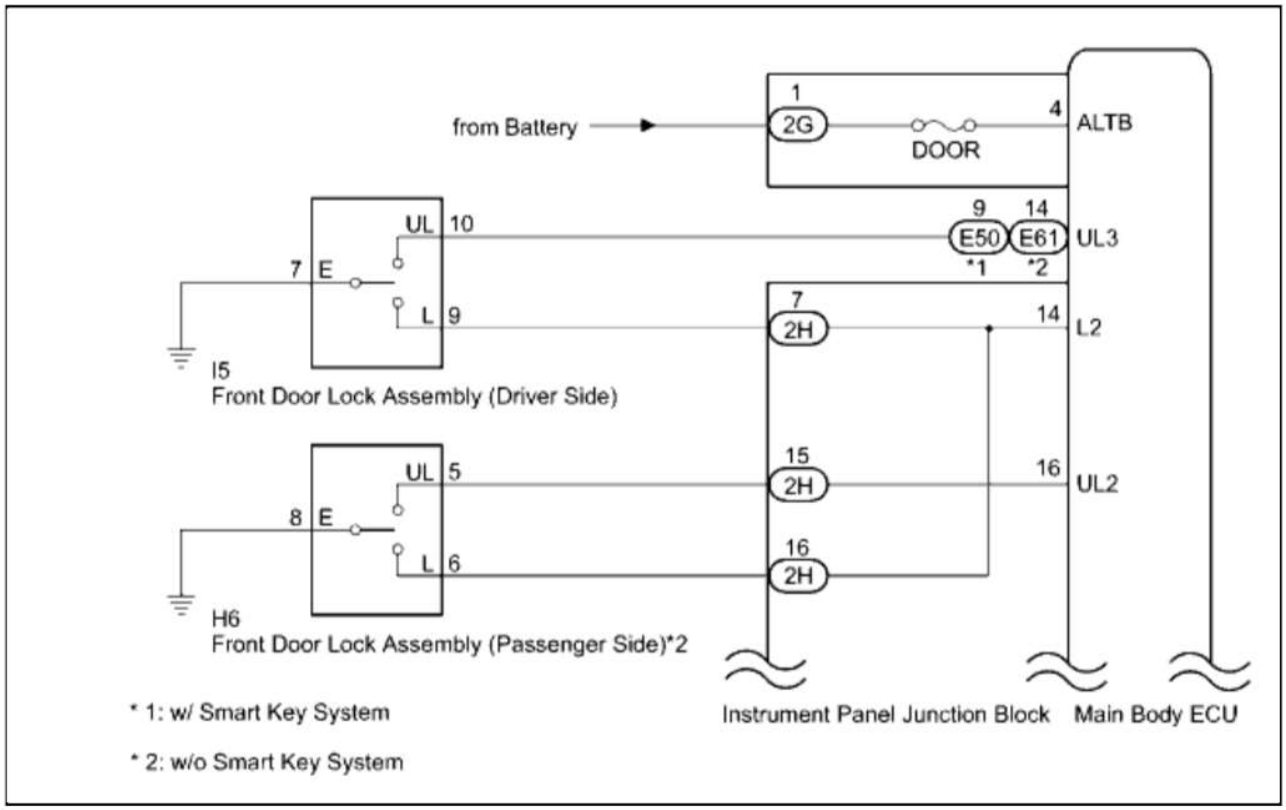
All Doors LOCK / UNLOCK Functions do not Operate Via Master Switch, Both Front Door Key Cylinders

DESCRIPTION

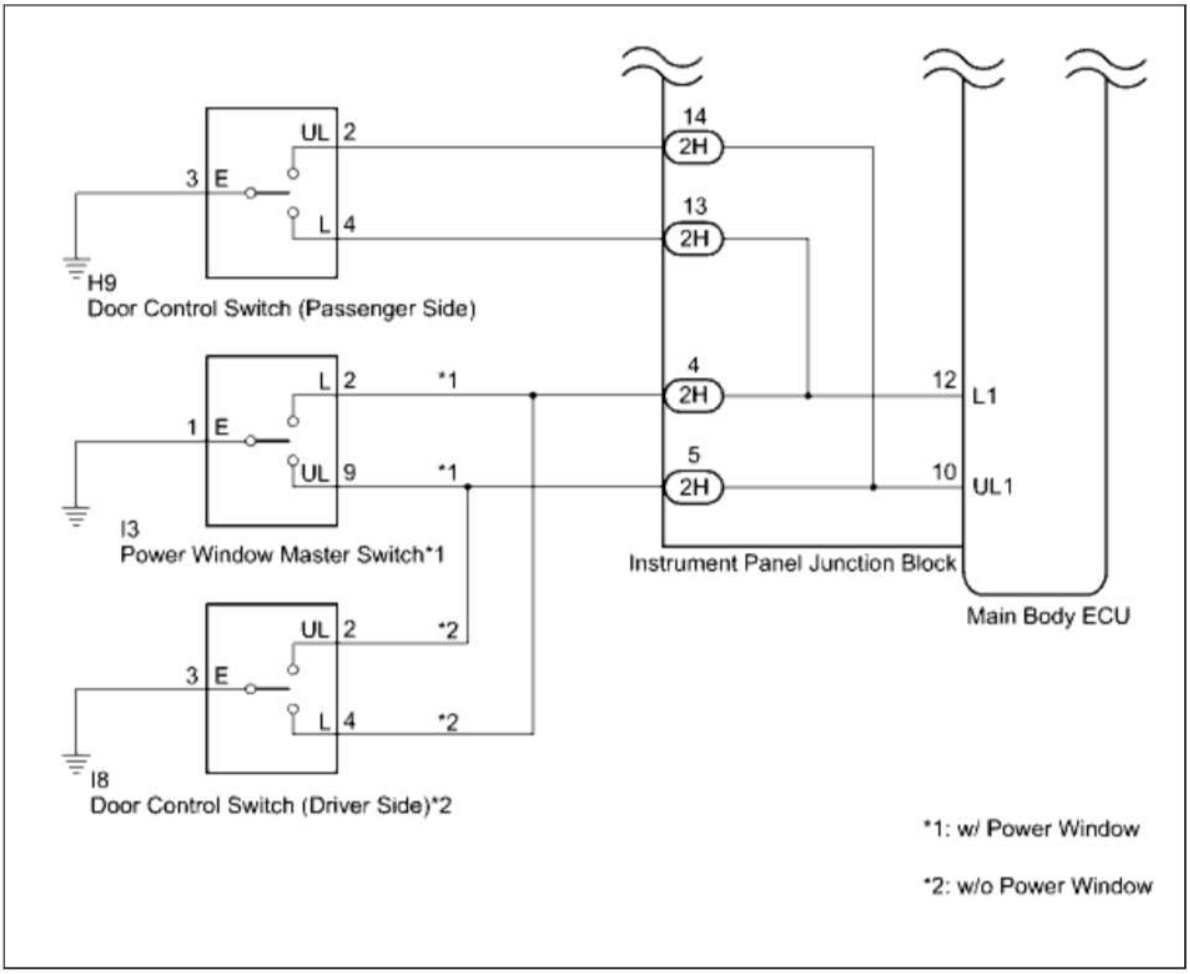
The main body ECU (instrument panel junction block) receives switch signals from the door control switch and front door key cylinder, and activates the door lock motor on each door according to these signals.

WIRING DIAGRAM

1. Except for TMC made:

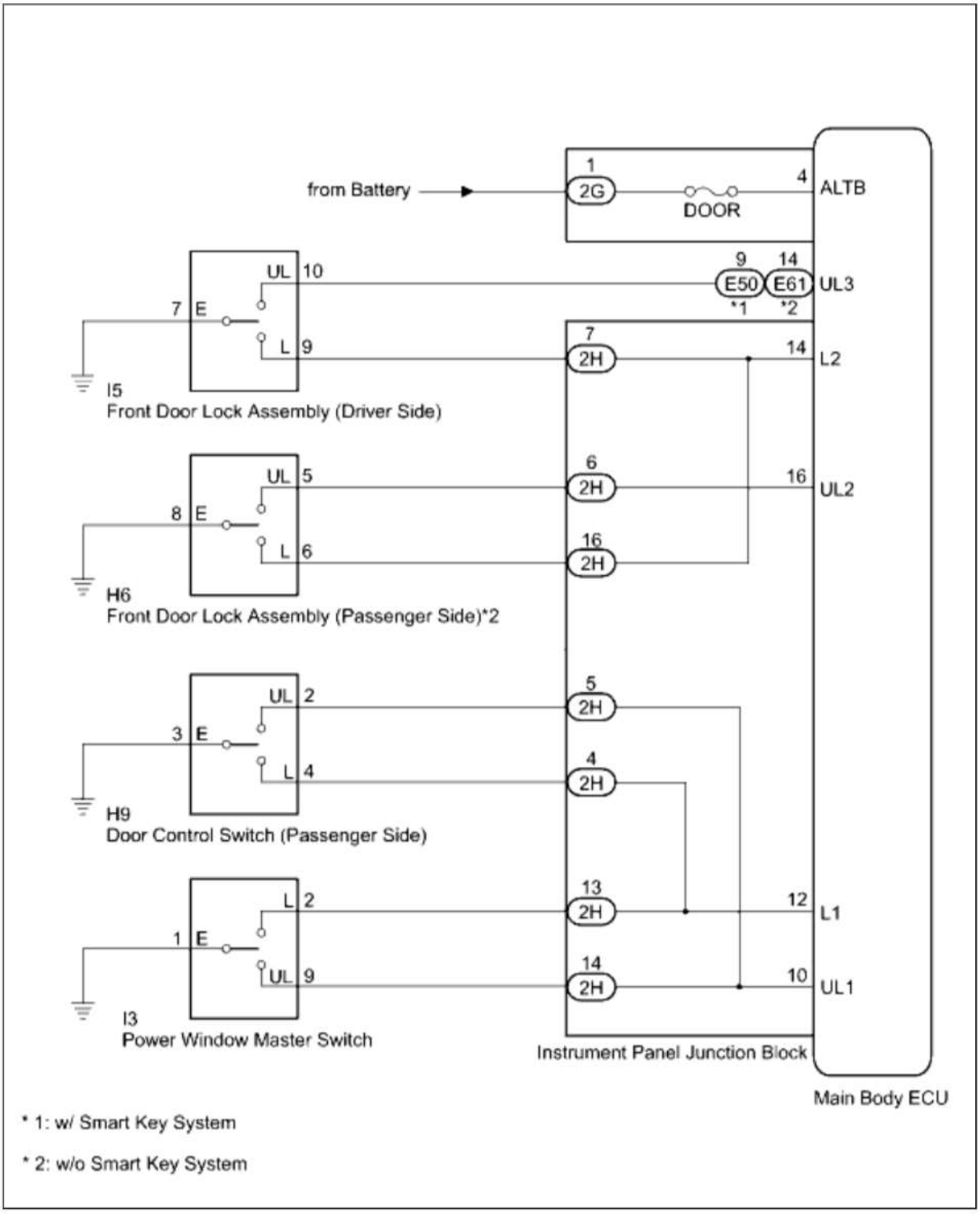


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2. for TMC Made:

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INSPECTION PROCEDURE

PROCEDURE

1.	**INSPECT FUSE (DOOR)**

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(a) Remove the DOOR fuse from the instrument panel junction block.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
DOOR fuse	Always	Below 1 Ω

NG ▶ **REPLACE FUSE**

OK ▼

2.	CHECK DOOR LOCK OPERATION (ALL DOORS LOCK / UNLOCK)

(a) All doors can be locked/unlocked at once using the following:

- Door control switch on the driver side (switch operation)
- Door control switch on the passenger side (switch operation)
- Door key cylinder linked with door lock on the driver side (key operation)
- Door key cylinder linked with door lock on the passenger side (key operation) (w/o Wireless Door Control System)

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

Result:

RESULT	PROCEED TO
All doors cannot be locked/unlocked at once by using door control switch.	A
All doors cannot be locked/unlocked at once by using door key cylinder.	B

B ▶ **CHECK DOOR LOCK OPERATION (DOOR KEY CYLINDER)**

A ▼

3.	CHECK DOOR LOCK OPERATION (DOOR CONTROL SWITCH)

(a) Proceed to the next step according to symptom if all the doors cannot be

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locked/unlocked at once.

Result:

RESULT	PROCEED TO
All doors cannot be locked/unlocked at once by using door control switch on driver side or power window master switch.	A
All doors cannot be locked/unlocked at once by using door control switch on passenger side.	B
All doors cannot be locked/unlocked at once by using both driver and passenger side door control switch.	C

C ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

B ▶ **READ VALUE USING TECHSTREAM (DOOR CONTROL SWITCH (PASSENGER SIDE))**

A

4.	READ VALUE USING TECHSTREAM (DOOR CONTROL SWITCH (DRIVER SIDE))

(a) Connect the Techstream

(b) Turn the ignition switch to ON.

(c) Turn the Techstream on.

(d) Enter the following menus: Body Electrical / Main Body / Data List.

(e) Read the Data List according to the display on the Techstream.

Main Body

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Door Lock SW-Lock	Driver door manual lock switch signal / ON or OFF	ON: Driver side door control switch is pushed to lock position OFF: Driver side door control switch is released	-
Door Lock SW-Unlock	Driver door manual unlock switch signal / ON or OFF	ON: Driver side door control switch is pushed to unlock	-

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TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
		position OFF: Driver side door control switch is released	

OK:

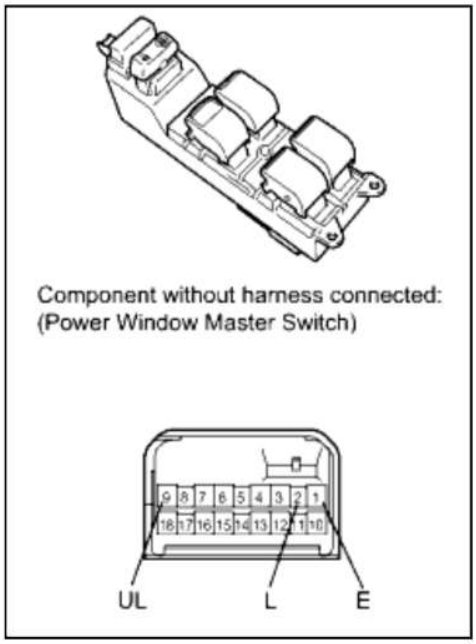
The Techstream indicates ON or OFF according to the switch operation as shown in the table above.

NG ▶ **INSPECT DOOR CONTROL SWITCH ASSEMBLY (DRIVER SIDE)**

OK ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

5.	INSPECT DOOR CONTROL SWITCH ASSEMBLY (DRIVER SIDE)

(a) w/ Power Window:



(1) Remove the power window master switch INFO.

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

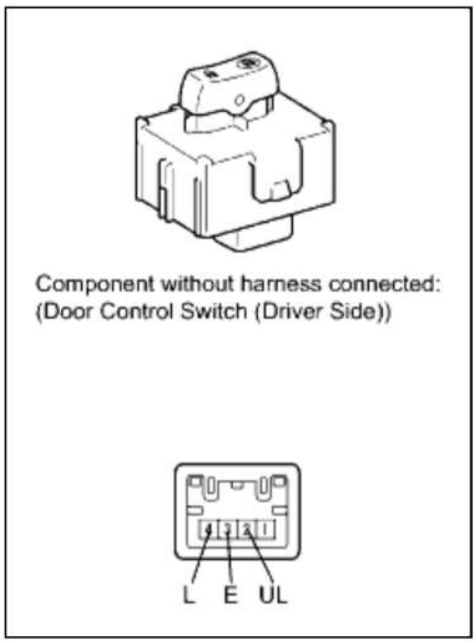
Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
1 (E) - 2 (L)	Lock	Below 1 Ω

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TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
1 (E) - 2 (L) 1 (E) - 9 (UL)	OFF (Free)	10 kΩ or higher
1 (E) - 9 (UL)	Unlock	Below 1 Ω

(b) w/o Power Window: (Except for TMC made)



(1) Remove the door control switch INFO .

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

Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
3 (E) - 4 (L)	Lock	Below 1 Ω
3 (E) - 4 (L) 2 (UL) - 3 (E)	OFF (Free)	10 kΩ or higher
2 (UL) - 3 (E)	Unlock	Below 1 Ω

Result:

RESULT	PROCEED TO
OK	A
NG (for Driver Side with Power Window)	B
NG (for Driver Side without Power Window)	C

C ▶ REPLACE DOOR CONTROL SWITCH ASSEMBLY

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(DRIVER SIDE)

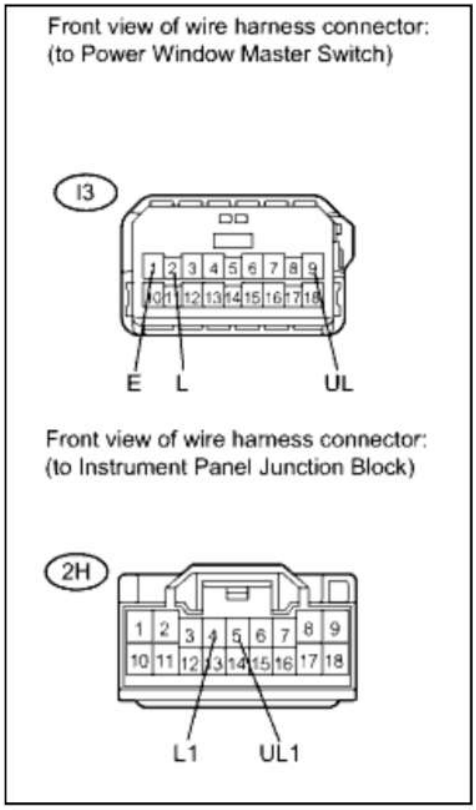
B ▶ REPLACE POWER WINDOW MASTER SWITCH

A ▼

6.	CHECK HARNESS AND CONNECTOR (JUNCTION BLOCK - DOOR CONTROL SWITCH (DRIVER SIDE))

(a) Disconnect the 2H junction block connector.

(b) w/ Power Window: (Except for TMC made)



(1) Disconnect the I3 switch connector.

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

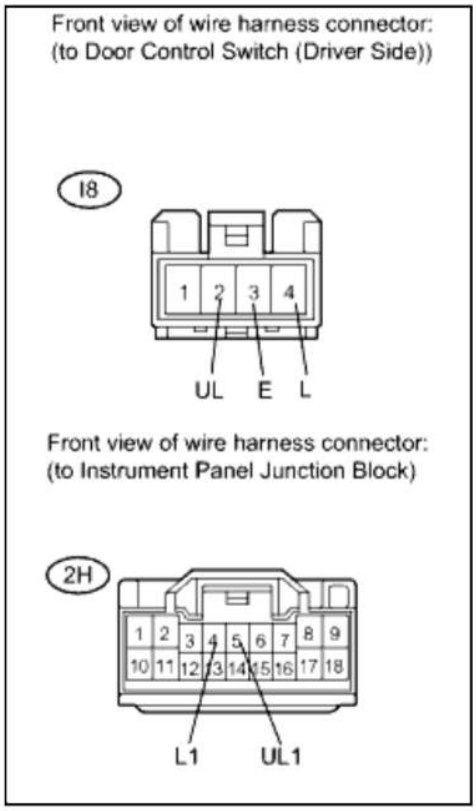
Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
I3-2 (L) - 2H-4 (L1)	Always	Below 1 Ω

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TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
I3-9 (UL) - 2H-5 (UL1)	Always	Below 1 Ω
I3-1 (E) - Body ground	Always	Below 1 Ω
I3-2 (L) - Body ground	Always	10 kΩ or higher
I3-9 (UL) - Body ground	Always	10 kΩ or higher

(c) w/o Power Window: (Except for TMC made)



(1) Disconnect the 2H J/B connector.

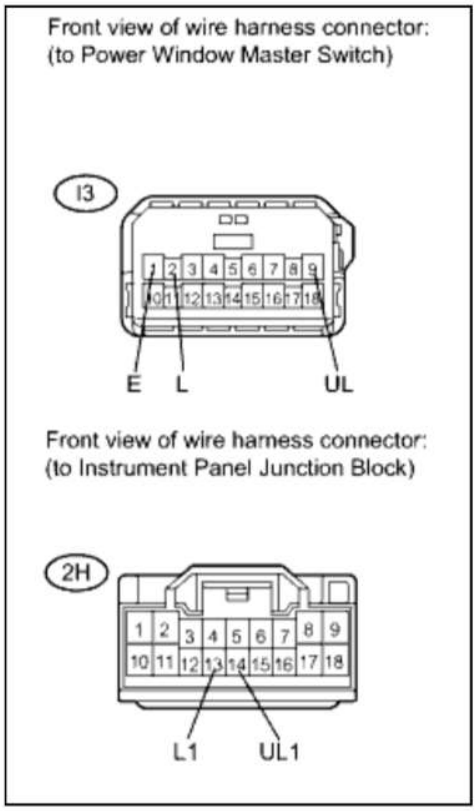
(2) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
I8-4 (L) - 2H-4 (L1)	Always	Below 1 Ω
I8-2 (UL) - 2H-5 (UL1)	Always	Below 1 Ω
I8-3 (E) - Body ground	Always	Below 1 Ω
I8-4 (L) - Body ground	Always	10 kΩ or higher
I8-2 (UL) - Body ground	Always	10 kΩ or higher

(d) w/ Power Window: (for TMC made)

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(1) Disconnect the I3 switch connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
I3-2 (L) - 2H-13 (L1)	Always	Below 1 Ω
I3-9 (UL) - 2H-14 (UL1)	Always	Below 1 Ω
I3-1 (E) - Body ground	Always	Below 1 Ω
I3-2 (L) - Body ground	Always	10 kΩ or higher
I3-9 (UL) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

7.	**READ VALUE USING TECHSTREAM (DOOR CONTROL SWITCH (PASSENGER SIDE))**

(a) Connect the Techstream

(b) Turn the ignition switch to ON.

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(c) Turn the Techstream on.

(d) Enter the following menus: Body Electrical / Main Body / Data List.

(e) Read the Data List according to the display on the Techstream.

Main Body

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Door Lock SW-Lock	Passenger door manual lock switch signal / ON or OFF	ON: Passenger side door control switch is pushed to lock position OFF: Passenger side door control switch is released	-
Door Lock SW-Unlock	Passenger door manual unlock switch signal / ON or OFF	ON: Passenger side door control switch is pushed to unlock position OFF: Passenger side door control switch is released	-

OK:

The Techstream indicates ON or OFF according to the switch operation as shown in the table above.

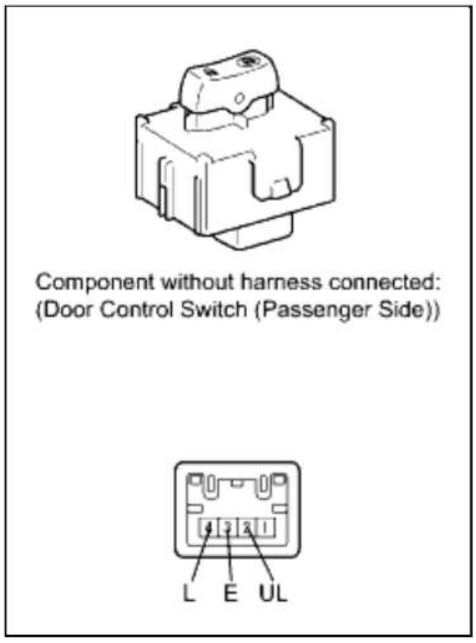
NG ▶ **INSPECT DOOR CONTROL SWITCH ASSEMBLY (PASSENGER SIDE)**

OK ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

8.	**INSPECT DOOR CONTROL SWITCH ASSEMBLY (PASSENGER SIDE)**

(a) Remove the door control switch INFO .

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

Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
3 (E) - 4 (L)	Lock	Below 1 Ω
3 (E) - 4 (L) 2 (UL) - 3 (E)	OFF (Free)	10 kΩ or higher
2 (UL) - 3 (E)	Unlock	Below 1 Ω

NG ▶ **REPLACE DOOR CONTROL SWITCH ASSEMBLY (PASSENGER SIDE)**

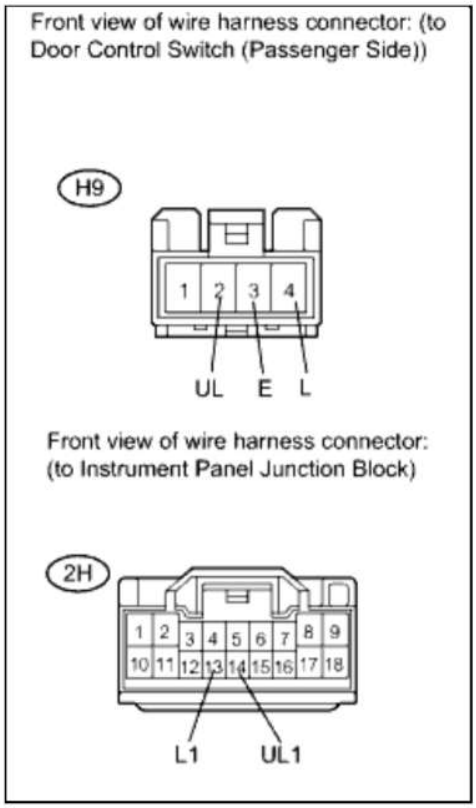
OK ▼

9.	**CHECK HARNESS AND CONNECTOR (JUNCTION BLOCK - DOOR CONTROL SWITCH (PASSENGER SIDE))**

(a) Except for TMC made:

(1) Disconnect the 2H junction block connector.

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

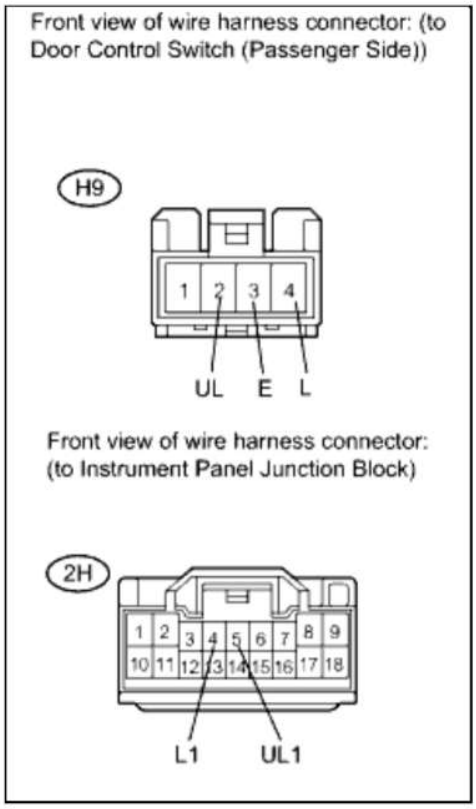
Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
H9-4 (L) - 2H-13 (L1)	Always	Below 1 Ω
H9-2 (UL) - 2H-14 (UL1)	Always	Below 1 Ω
H9-3 (E) - Body ground	Always	Below 1 Ω
H9-4 (L) - Body ground	Always	10 kΩ or higher
H9-2 (UL) - Body ground	Always	10 kΩ or higher

(b) for TMC made:

(1) Disconnect the 2H junction block connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
H9-4 (L) - 2H-4 (L1)	Always	Below 1 Ω
H9-2 (UL) - 2H-5 (UL1)	Always	Below 1 Ω
H9-3 (E) - Body ground	Always	Below 1 Ω
H9-4 (L) - Body ground	Always	10 kΩ or higher
H9-2 (UL) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

10.	**CHECK DOOR LOCK OPERATION (DOOR KEY CYLINDER)**

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

Result:

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RESULT	PROCEED TO
All doors cannot be locked/unlocked at once by using door key cylinder on driver side.	A
All doors cannot be locked/unlocked at once by using door key cylinder on passenger side.	B
All doors cannot be locked/unlocked at once by using either driver and passenger side door key cylinder.	C

C ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

B ▶ **READ VALUE USING TECHSTREAM (DOOR KEY LINKED LOCK AND UNLOCK SWITCH (PASSENGER SIDE))**

A

11.	**READ VALUE USING TECHSTREAM (DOOR KEY LINKED LOCK AND UNLOCK SWITCH (DRIVER SIDE))**

(a) Connect the Techstream

(b) Turn the ignition switch to ON.

(c) Turn the Techstream on.

(d) Enter the following menus: Body Electrical / Main Body / Data List.

(e) Read the Data List according to the display on the Techstream.

Main Body

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Door Key SW-Lock	Driver side door key linked lock switch signal/ON or OFF	ON: Driver side door key cylinder is turned to lock position OFF: Driver side door key cylinder is not turned	-
D-Door Key SW-UL	Driver side door key linked unlock switch signal/ON or OFF	ON: Driver side door key cylinder is turned to unlock position	-

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TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
		OFF: Driver side door key cylinder is not turned	

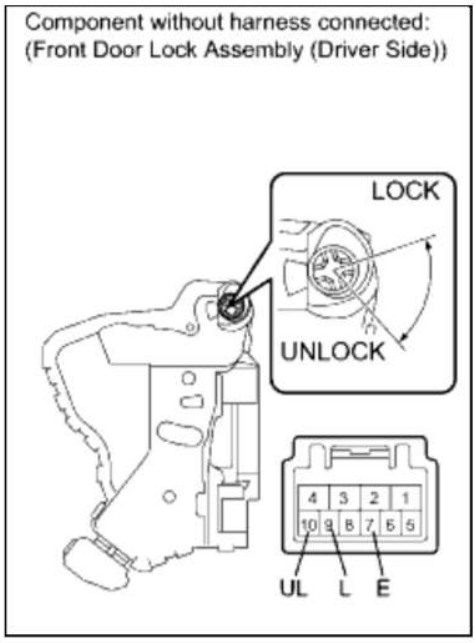
OK:

The Techstream indicates ON or OFF according to the switch operation as shown in the table above.

NG ▶ **INSPECT FRONT DOOR LOCK ASSEMBLY (DRIVER SIDE)**

OK ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

12.	INSPECT FRONT DOOR LOCK ASSEMBLY (DRIVER SIDE)



(a) Remove the front door lock assembly (driver side) INFO .

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
9 (L) - 7 (E)	ON (Door lock set to LOCK)	Below 1 Ω
9 (L) - 7 (E) 10 (UL) - 7 (E)	OFF (Free)	10 kΩ or higher

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TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
10 (UL) - 7 (E)	ON (Door lock set to UNLOCK)	Below 1 Ω

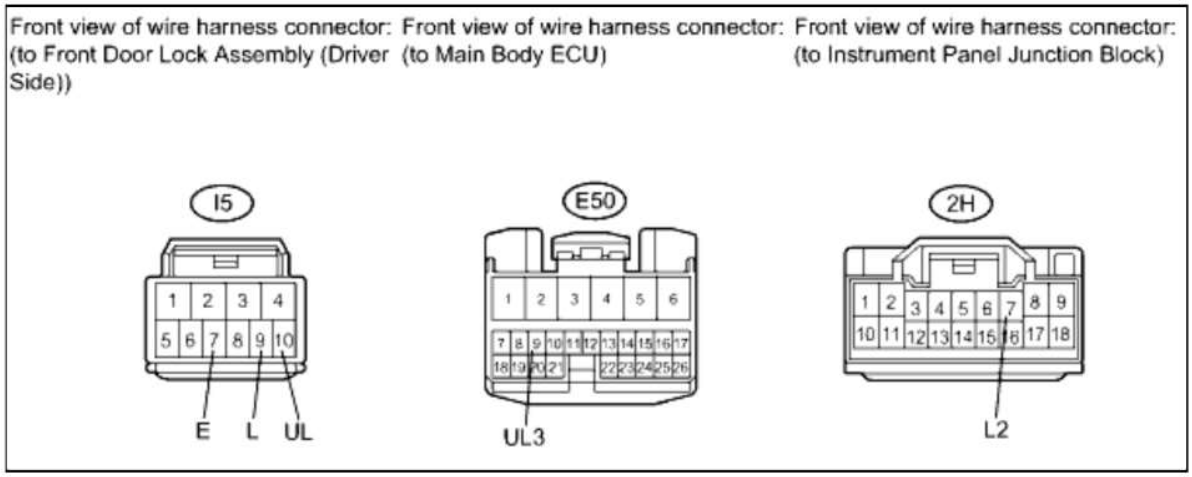
NG ▶ **REPLACE FRONT DOOR LOCK ASSEMBLY (DRIVER SIDE)**

OK ▼

13.	**CHECK HARNESS AND CONNECTOR (FRONT DOOR LOCK - MAIN BODY ECU (INSTRUMENT PANEL J/B))**

(a) w/ Smart Key System:

(1) Disconnect the 2H junction block connector.



(2) Disconnect the E50 ECU connector.

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

Standard Resistance:

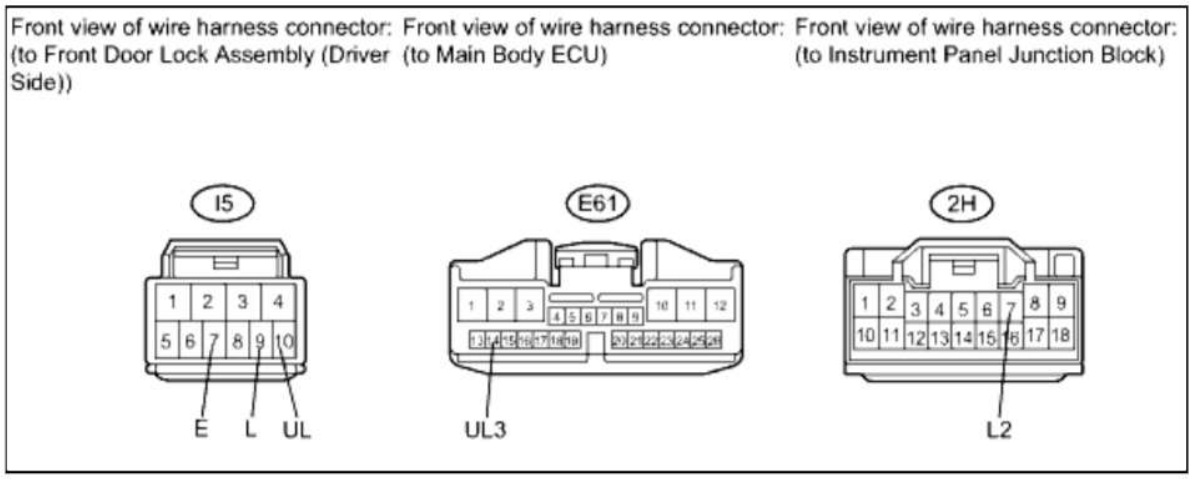
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
I5-9 (L) - 2H-7 (L2)	Always	Below 1 Ω
I5-10 (UL) - E50-9 (UL3)	Always	Below 1 Ω
I5-7 (E) - Body ground	Always	Below 1 Ω
I5-9 (L) - Body ground	Always	10 kΩ or higher

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TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
I5-10 (UL) - Body ground	Always	10 kΩ or higher

(b) w/o Smart Key System:

(1) Disconnect the 2H junction block connector.



(2) Disconnect the E61 ECU connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
I5-9 (L) - 2H-7 (L2)	Always	Below 1 Ω
I5-10 (UL) - E61-14 (UL3)	Always	Below 1 Ω
I5-7 (E) - Body ground	Always	Below 1 Ω
I5-9 (L) - Body ground	Always	10 kΩ or higher
I5-10 (UL) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

14.	**READ VALUE USING TECHSTREAM (DOOR KEY LINKED LOCK AND UNLOCK SWITCH (PASSENGER SIDE))**

(a) Connect the Techstream

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(b) Turn the ignition switch to ON.

(c) Turn the Techstream on.

(d) Enter the following menus: Body Electrical / Main Body / Data List.

(e) Read the Data List according to the display on the Techstream.

Main Body ECU

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Door Key SW-Lock	Passenger side door key linked lock switch signal/ON or OFF	ON: Passenger side door key cylinder is turned to lock position OFF: Passenger side door key cylinder is not turned	-
Door Key SW-Unlock	Passenger side door key linked unlock switch signal/ON or OFF	ON: Passenger side door key cylinder is turned to unlock position OFF: Passenger side door key cylinder is not turned	-

OK:

The Techstream indicates ON or OFF according to the switch operation as shown in the table above.

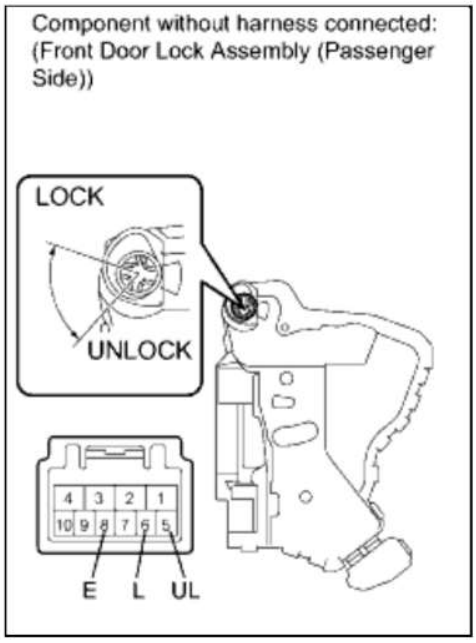
NG ▶ **INSPECT FRONT DOOR LOCK ASSEMBLY (PASSENGER SIDE)**

OK ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

15.	INSPECT FRONT DOOR LOCK ASSEMBLY (PASSENGER SIDE)

(a) Remove the front door lock assembly (passenger side) INFO .

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
6 (L) - 8 (E)	ON (Door lock set to LOCK)	Below 1 Ω
6 (L) - 8 (E) 5 (UL) - 8 (E)	OFF (Free)	10 kΩ or higher
5 (UL) - 8 (E)	ON (Door lock set to UNLOCK)	Below 1 Ω

NG ▶ **REPLACE FRONT DOOR LOCK ASSEMBLY (PASSENGER SIDE)**

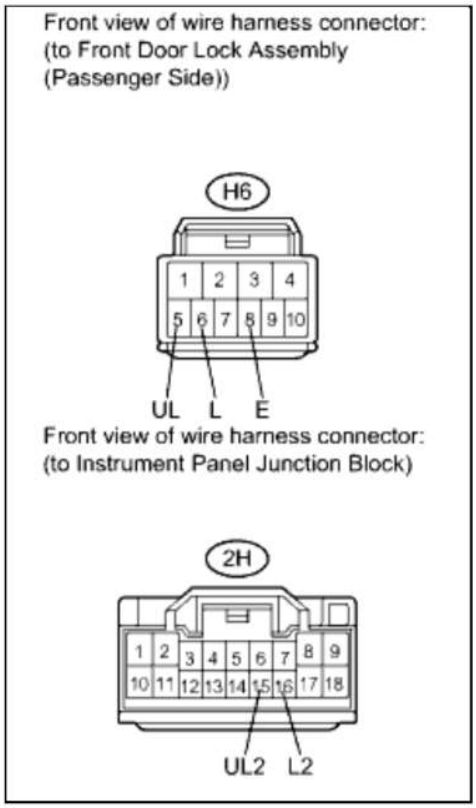
OK ▼

16.	**CHECK HARNESS AND CONNECTOR (FRONT DOOR LOCK - INSTRUMENT PANEL JUNCTION BLOCK)**

(a) Except for TMC made:

(1) Disconnect the 2H junction block connector.

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

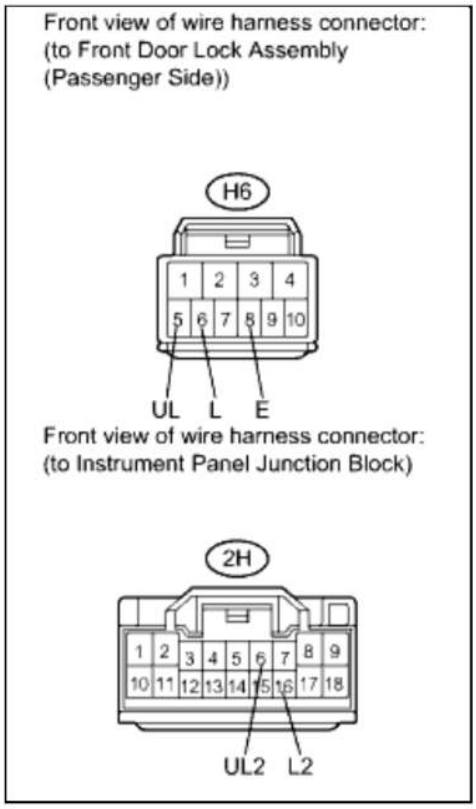
Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
H6-6 (L) - 2H-16 (L2)	Always	Below 1 Ω
H6-5 (UL) - 2H-15 (UL2)	Always	Below 1 Ω
H6-8 (E) - Body ground	Always	Below 1 Ω
H6-6 (L) - Body ground	Always	10 kΩ or higher
H6-5 (UL) - Body ground	Always	10 kΩ or higher

(b) for TMC made:

(1) Disconnect the 2H junction block connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
H6-6 (L) - 2H-16 (L2)	Always	Below 1 Ω
H6-5 (UL) - 2H-6 (UL2)	Always	Below 1 Ω
H6-8 (E) - Body ground	Always	Below 1 Ω
H6-6 (L) - Body ground	Always	10 kΩ or higher
H6-5 (UL) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000133302JX
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: OPERATION CHECK (2010 Corolla)		

OPERATION CHECK

1. CHECK POWER DOOR LOCK CONTROL OPERATION

NOTICE:

The following procedure is based on the assumption that the functions have not been customized using the Techstream.

(a) Check basic functions.

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

(2) Check that all doors lock when either driver or passenger* side door lock key cylinder is turned to LOCK using the mechanical key.

- *: w/o Wireless Door Lock System

(b) Check the electrical key lock-in prevention function (w/ Smart Key System).

NOTICE:

In order to prevent the electrical key from being actually locked-in, the following inspection should be performed with the driver side door window open.

(1) Place the electrical key in the cabin.

(2) With the driver or passenger side door open, turn the driver side door lock knob or door control switch to LOCK, and then close the driver side door. Then check that all doors unlock.

(c) Check the key lock-in prevention function (w/o Smart Key System).

NOTICE:

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

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

(2) With either driver or passenger 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 either driver or passenger side door open, check that all doors unlock immediately after the door control switch (for manual operation) is turned to LOCK.

(4) With either driver or passenger side door open, turn the driver side door lock knob to LOCK, and close the driver side door. Check that all doors unlock.

(d) 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) Remove the key from the inside of the vehicle, open either driver or passenger 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) Remove the key from the inside of the vehicle, then close and lock either driver or passenger side door with the key operation. 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.

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(4) Remove the key from the inside of the vehicle, close either driver or passenger 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:

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 lock knob is unlocked manually.
- The doors are unlocked by wireless operation.

(e) Check the illumination function.

(1) Set the room light switch to the DOOR position.

(2) With all doors locked, check that the either driver or passenger side door unlocks when either driver or passenger side door lock cylinder is turned to UNLOCK using the key. At the same time, the room light comes on.

(3) Check that the room light goes off in approximately 15 seconds if the doors have not been opened.

(f) Check the key-linked 2-step unlock function.

(1) Lock all doors.

(2) Check that only the driver side door unlocks when the driver side door lock cylinder is turned to UNLOCK once using the key and other doors unlock when turned to UNLOCK consecutively once again.

(g) Check the shift linked automatic door lock function.

(1) When the ignition switch is turned ON and all doors close and the shift lever is moved from P to a position other than P, check that all doors lock automatically.

- *: for A/T

(h) Check the shift linked automatic door unlock function.

(1) When the ignition switch is turned ON and the shift lever is moved to P from a position other than P, check that all doors unlock automatically.

- *: for A/T

(i) Check the speed-sensitive automatic door lock function*.

(1) When a door is unlocked and the vehicle is driven at approximately 20 km/h (12 mph) or more, check that all doors automatically lock at once (automatic door lock).

HINT:

***: Default setting is OFF**

(j) Check the driver's door-linked automatic unlock function*.

(1) When the driver's door is closed, turning the ignition switch ON to off and opening the driver door within 10 seconds will automatically unlock all the doors.

HINT:

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***: Default setting is OFF**



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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000WI3026X
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: CUSTOMIZE PARAMETERS (2010 Corolla)		

CUSTOMIZE PARAMETERS

1. CUSTOMIZING FUNCTION WITH TECHSTREAM

HINT:

The following items can be customized.

NOTICE:

- When the customer requests a change in a function, first make sure that the function can be customized.
- 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 the Techstream to the DLC3.

(b) Turn the ignition switch to ON.

(c) Turn the Techstream on.

(d) Enter the following menus: Customize Setting / Door Lock.

(e) Select the setting by referring to the table below.

Main Body

TESTER 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 doors.	ON/OFF
Auto Lock/Shift*	ON	Function that locks all doors when shift lever is shifted from P to any other position with engine running and all doors closed	ON/OFF
Auto Unlock/Shift*	ON	Function that unlocks all doors when shift lever is shifted to P from any other position while the ignition switch is ON	ON/OFF
All Unlock/Open-Close	OFF	Function that unlocks all doors when opening driver door within 10 seconds after turning the ignition switch is OFF	ON/OFF
Auto Lock	OFF	Function that locks all doors when vehicle speed reaches a certain level	ON/OFF

- *: for A/T

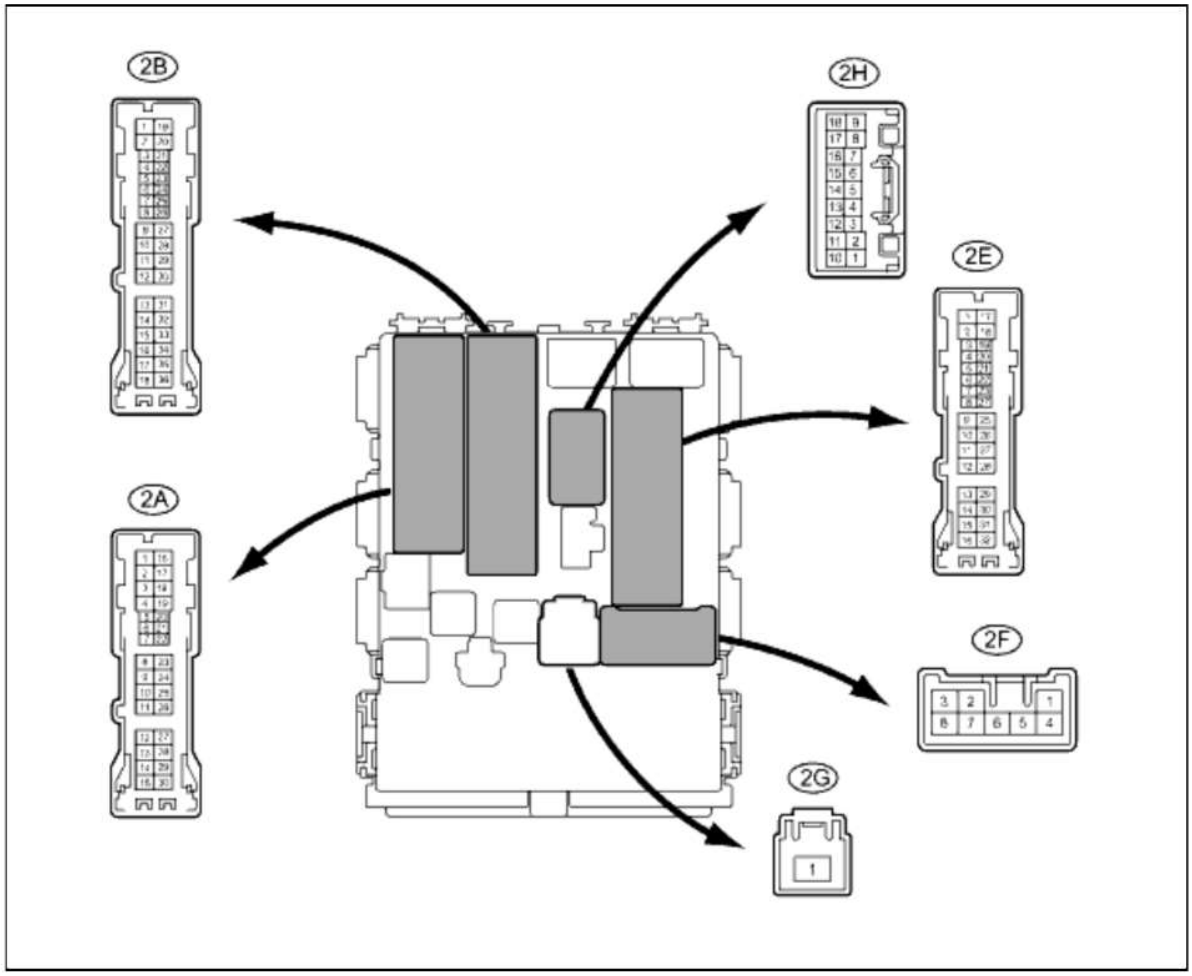
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Last Modified: 3-10-2010	6.4 U	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000TNT039X
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: TERMINALS OF ECU (2010 Corolla)		

TERMINALS OF ECU

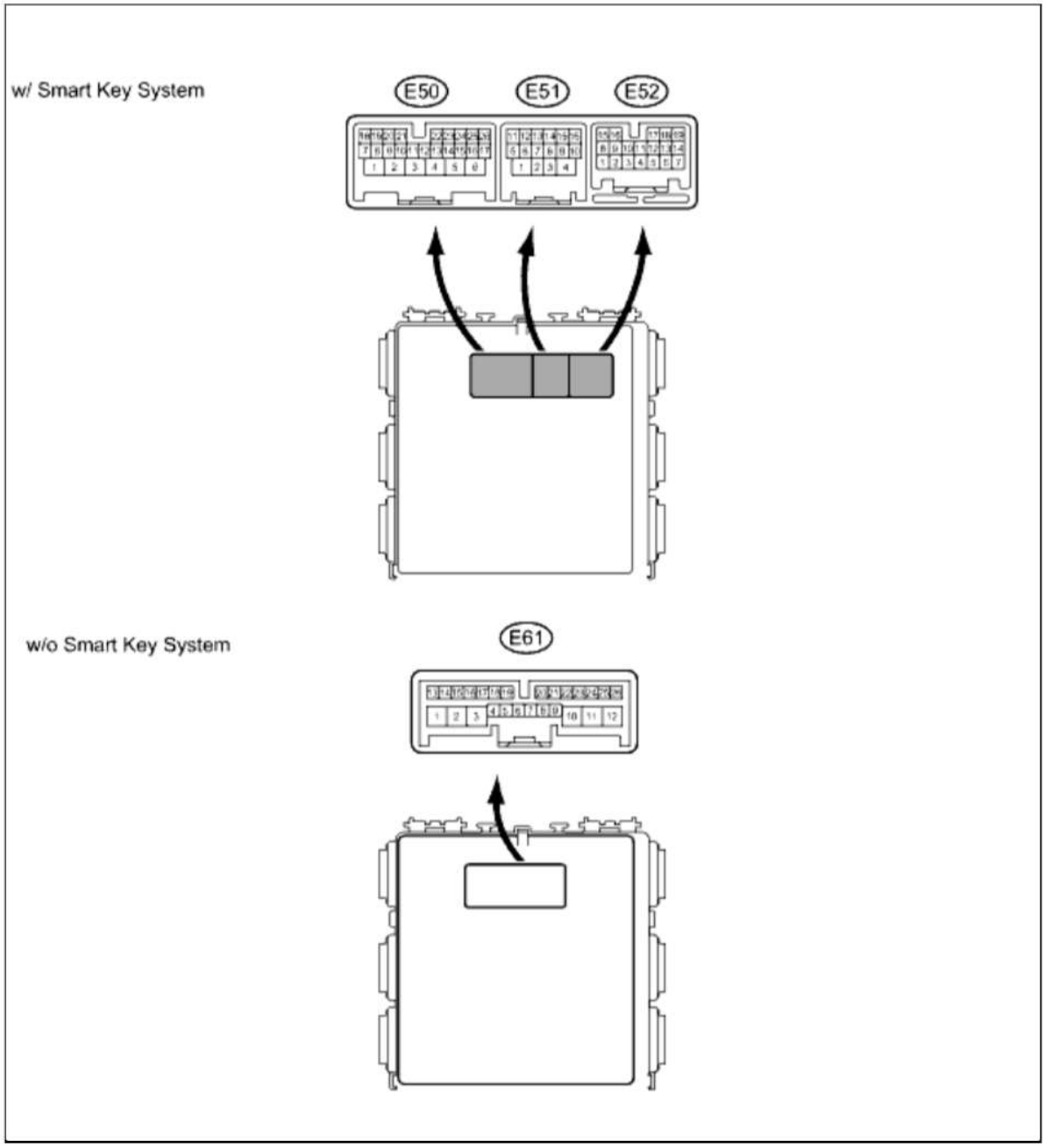
1. CHECK MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)

(a) Disconnect the 2A, 2B, 2E, 2F, 2G and 2H junction block connectors.



(b) Disconnect the E61 and E50 ECU connector.

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

TESTER CONNECTION	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
2A-21 (DCTY) - Body ground	Driver door courtesy switch	Driver door CLOSED → OPEN	10 kΩ or higher → Below 1 Ω
2E-19 (RCTY) - Body ground	Rear right door courtesy switch input	Rear right door CLOSED → OPEN	10 kΩ or higher → Below 1 Ω
2E-20 (PCTY) - Body ground	Passenger door courtesy switch input	Passenger door CLOSED → OPEN	10 kΩ or higher → Below 1 Ω

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TESTER CONNECTION	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
E50-8 (LCTY) - Body ground*1	Rear left door courtesy switch input	Rear left door CLOSED → OPEN	10 kΩ or higher → Below 1 Ω
E61-13 (LCTY) - Body ground*2	Rear left door courtesy switch input	Rear left door CLOSED → OPEN	10 kΩ or higher → Below 1 Ω
2G-1 (ALTB) - Body ground	+B power supply	Always	11 to 14 V
2E-17 (E) - Body ground	Ground	Always	Below 1 Ω
2F-5 (ACC) - Body ground	ACC power supply	Ignition switch ON → OFF	11 to 14 V → Below 1 V
2H-4 (L1) - Body ground*3	Driver door control switch LOCK input	Driver door control switch or power window master switch OFF → LOCK	10 kΩ or higher → Below 1 Ω
2H-13 (L1) - Body ground*4	Power window master switch LOCK input	Driver door control switch OFF → LOCK	10 kΩ or higher → Below 1 Ω
2H-5 (UL1) - Body ground*3	Driver door control switch UNLOCK input	Driver door control switch or power window master switch OFF → UNLOCK	10 kΩ or higher → Below 1 Ω
2H-14 (UL1) - Body ground*4	Power window master switch UNLOCK input	Driver door control switch OFF → UNLOCK	10 kΩ or higher → Below 1 Ω
2H-13 (L1) - Body ground*3	Passenger door control switch LOCK input	Passenger door control switch OFF → LOCK	10 kΩ or higher → Below 1 Ω
2H-4 (L1) - Body ground*4	Passenger door control switch LOCK input	Passenger door control switch OFF → LOCK	10 kΩ or higher → Below 1 Ω
2H-14 (UL1) - Body ground*3	Passenger door control switch UNLOCK input	Passenger door control switch OFF → UNLOCK	10 kΩ or higher → Below 1 Ω
2H-5 (UL1) - Body ground*4	Passenger door control switch UNLOCK input	Passenger door control switch OFF → UNLOCK	10 kΩ or higher → Below 1 Ω
2B-30 (BECU) - Body ground*2	+B (BECU) power supply	Always	11 to 14 V
2A-7 (LGCY) - Body ground	Luggage door courtesy switch signal input	Luggage door CLOSE → OPEN	10 kΩ or higher → Below 1 Ω
2E-23 (KSW) - Body ground*2	Unlock warning switch signal input	No key is in ignition key cylinder → Key is in ignition key cylinder	10 kΩ or higher → Below 1 Ω

- *1: w/ Smart Key System
- *2: w/o Smart Key System
- *3: Except for TMC made
- *4: for TMC made

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

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(d) Reconnect the ECU and junction block connectors.

(e) Measure the voltage according to the value(s) in the table below.

TESTER CONNECTION	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
E50-9 (UL3) - Body ground*1	Driver door key-linked door unlock switch	Driver door lock cylinder is turned LOCK → UNLOCK with key	Below 1 V → 11 to 14 V (or pulse generation)
E61-14 (UL3) - Body ground*2	Driver door key-linked door unlock switch	Driver door lock cylinder is turned LOCK → UNLOCK with key	Below 1 V → 11 to 14 V (or pulse generation)
2H-15 (UL2) - Body ground*2,*3	Passenger door key-linked door unlock switch	Passenger door lock cylinder is turned LOCK → UNLOCK with key	Below 1 V → 11 to 14 V (or pulse generation)
2H-6 (UL2) - Body ground*4	Passenger door key-linked door unlock switch	Passenger door lock cylinder is turned LOCK → UNLOCK with key	Below 1 V → 11 to 14 V (or pulse generation)
2H-7 (L2) - Body ground	Driver door key-linked door lock switch	Driver door lock cylinder is turned UNLOCK → LOCK with key	Below 1 V → 11 to 14 V (or pulse generation)
2H-16 (L2) - Body ground*2	Passenger door key-linked door lock switch	Passenger door lock cylinder is turned UNLOCK → LOCK with key	Below 1 V → 11 to 14 V (or pulse generation)
2H-8 (ACT+) - Body ground	Passenger door key-linked door lock switch	Passenger door lock cylinder is turned UNLOCK → LOCK with key	Below 1 V → 11 to 14 V (or pulse generation)
2H-8 (ACT+) - Body ground 2H-17 (ACT+) - Body ground 2A-3 (ACT+) - Body ground	Door lock motor LOCK drive output (All doors)	Door control switch (Driver side or passenger side switch) or driver side door key cylinder or passenger side door key cylinder OFF → LOCK → OFF	Below 1 V → 11 to 14 V → Below 1 V
E61-21 (LSWD) - Body ground*2	Driver door lock position switch input	Driver door UNLOCK → LOCK	Below 1 V → 11 to 14 V (or pulse generation)
2H-9 (ACT-) - Body ground*3 2H-18 (ACT-) - Body ground 2A-4 (ACT-) - Body ground	Door lock motor UNLOCK drive output (All doors)	Door control switch (Driver side or passenger side switch) or driver side door key cylinder or passenger side door key cylinder OFF → UNLOCK → OFF	Below 1 V → 11 to 14 V → Below 1 V
E50-25 (LSWD) - Body ground*1	Driver door lock position switch input	Driver door UNLOCK → LOCK	Below 1 V → 11 to 14 V (or pulse

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TESTER CONNECTION	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
			generation)
E61-21 (LSWD) - Body ground*2	Driver door lock position switch input	Driver door UNLOCK → LOCK	Below 1 V → 11 to 14 V (or pulse generation)
E50-10 (LSWP) - Body ground*1	Passenger door lock position switch input	Passenger door UNLOCK → LOCK	Below 1 V → 11 to 14 V (or pulse generation)
E61-5 (LSWP) - Body ground*2	Passenger door lock position switch input	Passenger door UNLOCK → LOCK	Below 1 V → 11 to 14 V (or pulse generation)
E52-10 (LSR) - Body ground*1	Rear door lock position switch input	Rear door UNLOCK → LOCK	Below 1 V → 11 to 14 V (or pulse generation)
E61-24 (LSR) - Body ground*2	Rear door lock position switch input	Rear door UNLOCK → LOCK	Below 1 V → 11 to 14 V (or pulse generation)

- *1: w/ Smart Key System
- *2: w/o Smart Key System
- *3: Except for TMC made
- *4: for TMC made

If the result is not as specified, the main body ECU (instrument panel junction block) may have a malfunction.

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Last Modified: 3-10-2010	6.4 T	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000TNU02PX
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: PROBLEM SYMPTOMS TABLE (2010 Corolla)		

PROBLEM SYMPTOMS TABLE

HINT:

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

Power Door Lock Control System

SYMPTOM	SUSPECTED AREA	SEE PAGE
All Doors LOCK/UNLOCK Functions do not Operate Via Master Switch, Both Front Door Key Cylinders	Fuse (DOOR)	INFO
	Front door lock assembly (for driver side)	INFO
	Front door lock assembly (for passenger side)	INFO
	Wire harness or connector	-
	Door control switch (for driver side)	INFO
	Door control switch (for passenger side)	INFO
	Main body ECU (instrument panel junction block)	-
Only Driver Door LOCK/UNLOCK Functions do not Operate	Front door lock assembly (for driver side)	INFO
	Wire harness or connector	-
	Main body ECU (instrument panel junction block)	-
Only Passenger Door LOCK/UNLOCK Functions do not Operate	Front door lock assembly (for passenger side)	INFO
	Wire harness or connector	-
	Main body ECU (instrument panel junction block)	-
Only Rear Door LH LOCK/UNLOCK Functions do not Operate	Rear door lock assembly LH	INFO
	Wire harness or connector	-

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SYMPTOM	SUSPECTED AREA	SEE PAGE
	Main body ECU (instrument panel junction block)	-
Only Rear Door RH LOCK/UNLOCK Functions do not Operate	Rear door lock assembly RH	INFO
	Wire harness or connector	-
	Main body ECU (instrument panel junction block)	-
Key Lock-in Prevention Function does not Work Properly*1	Smart key system (Room oscillator does not recognize key)	INFO
	Front door courtesy light switch assembly (for driver side)	INFO
	Front door courtesy light switch assembly (for passenger side)	INFO
	Wire harness or connector	-
	Main body ECU (instrument panel junction block)	-
Key Lock-in Prevention Function does not Work Properly*2	Front door courtesy light switch assembly (for driver side)	INFO
	Front door courtesy light switch assembly (for passenger side)	INFO
	Unlock warning switch assembly	INFO
	Wire harness or connector	-
	Main body ECU (instrument panel junction block)	-

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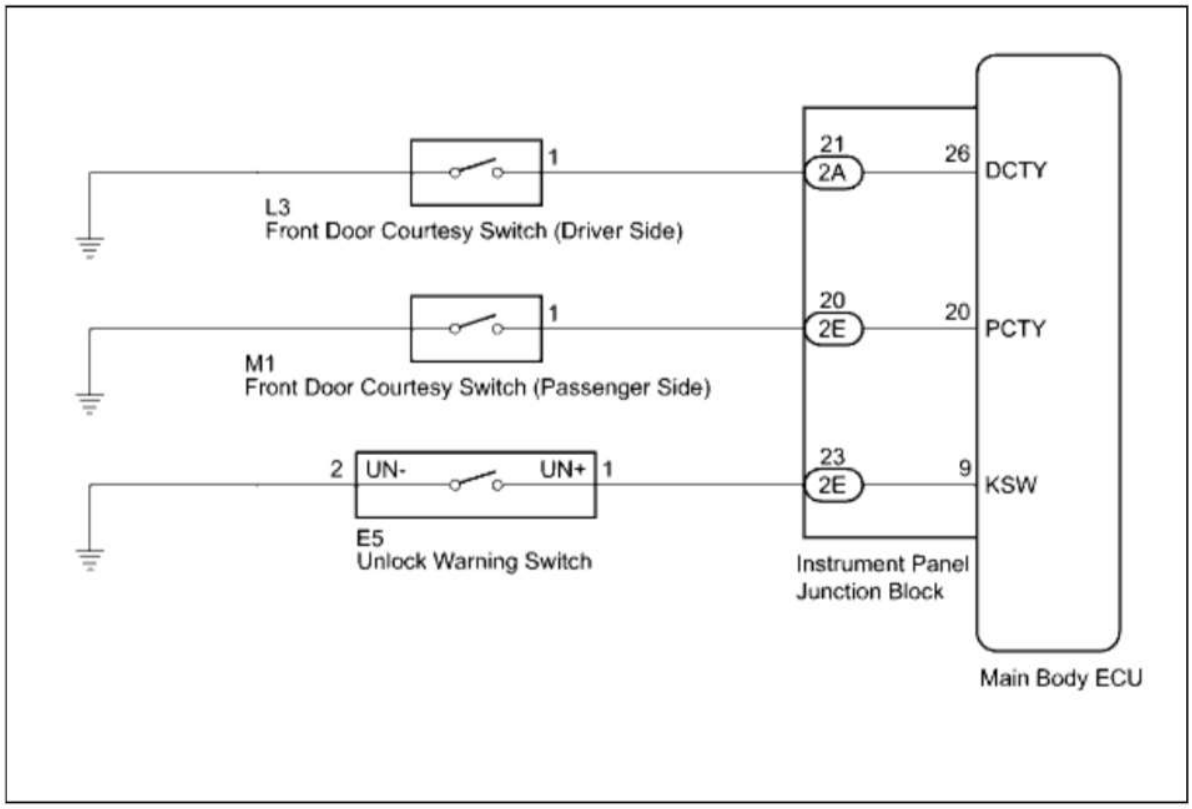
Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001Y7O01AX
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: Key Lock-in Prevention Function does not Work Properly (2010 Corolla)		

Key Lock-in Prevention Function does not Work Properly

DESCRIPTION

When the key is in the ignition key cylinder or the door courtesy switch ON signal is output to the main body ECU (instrument panel junction block), performing the door lock operation with the lock switch does not lock the door.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	**READ VALUE USING TECHSTREAM (UNLOCK WARNING SWITCH AND COURTESY**

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	SWITCHES)

(a) Connect the Techstream

(b) Turn the ignition switch to ON.

(c) Turn the Techstream on.

(d) Enter the following menus: Body Electrical / Main Body / Data List.

(e) Read the Data List according to the display on the Techstream.

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	-
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	-

OK:
The Techstream indicates ON or OFF according to the switch operation as shown in the table above.
Result:

RESULT	PROCEED TO
OK	A
NG (Unlock Warning Switch)	B
NG (Front Door Courtesy Light Switch (Driver Side))	C
NG (Front Door Courtesy Light Switch (Passenger Side))	D

D ▶ **INSPECT FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY (PASSENGER SIDE)**

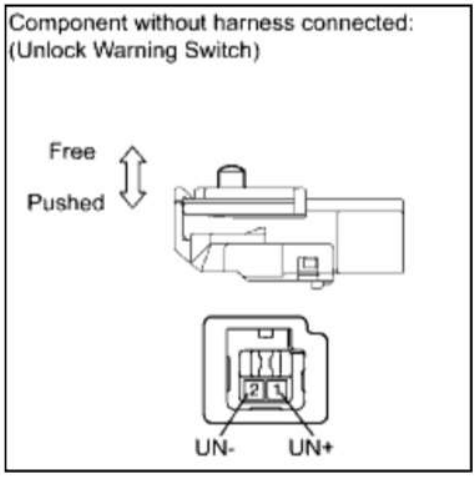
C ▶ **INSPECT FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY (DRIVER SIDE)**

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B ▶ **INSPECT UNLOCK WARNING SWITCH ASSEMBLY**

A ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

2.	**INSPECT UNLOCK WARNING SWITCH ASSEMBLY**



(a) Remove the unlock warning switch INFO .

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

Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
1 (UN+) - 2 (UN-)	Pushed	10 kΩ or higher
1 (UN+) - 2 (UN-)	Not pushed	Below 1 Ω

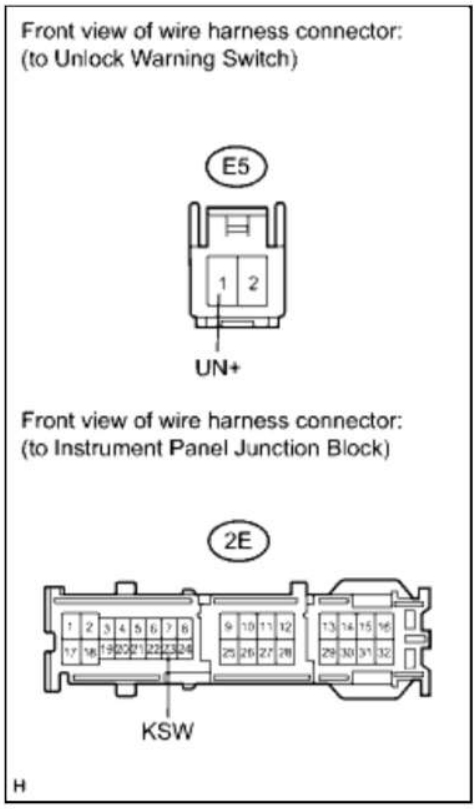
NG ▶ **REPLACE UNLOCK WARNING SWITCH ASSEMBLY**

OK ▼

3.	**CHECK HARNESS AND CONNECTOR (UNLOCK WARNING SWITCH - JUNCTION BLOCK)**

(a) Disconnect the 2E junction block connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E5-1 (UN+) - 2E-23 (KSW)	Always	Below 1 Ω
E5-1 (UN+) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

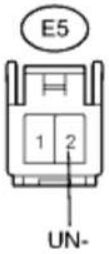
4.	CHECK HARNESS AND CONNECTOR (UNLOCK WARNING SWITCH - BODY GROUND)

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

Standard Resistance:

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



H

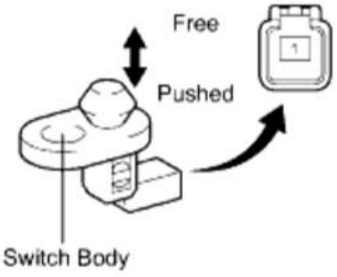
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E5-2 (UN-) - Body ground	Always	Below 1 Ω

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

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

Component without harness connected:
(Front Door Courtesy Light Switch (Driver Side))



H

(a) Remove the front door courtesy light switch (driver side) INFO .

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

Standard Resistance:

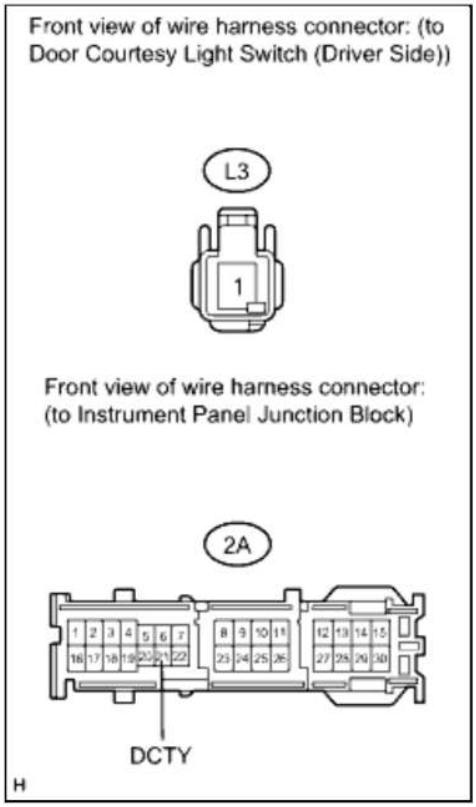
TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
1 - Switch ground	Not pushed (ON)	Below 1 Ω
1 - Switch ground	Pushed (OFF)	10 kΩ or higher

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

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OK

6.	**CHECK HARNESS AND CONNECTOR (FRONT DOOR COURTESY LIGHT SWITCH - JUNCTION BLOCK)**



(a) Disconnect the 2A junction block connector.

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

Standard Resistance:

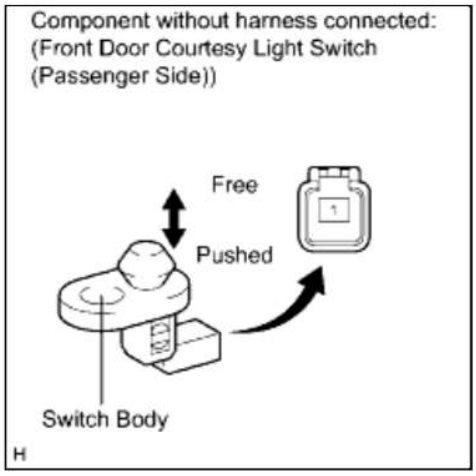
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L3-1 - 2A-21 (DCTY)	Always	Below 1 Ω
L3-1 - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

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7.	INSPECT FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY (PASSENGER SIDE)



(a) Remove the front door courtesy light switch (passenger side) INFO .

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

Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
1 - Switch ground	Not pushed (ON)	Below 1 Ω
1 - Switch ground	Pushed (OFF)	10 kΩ or higher

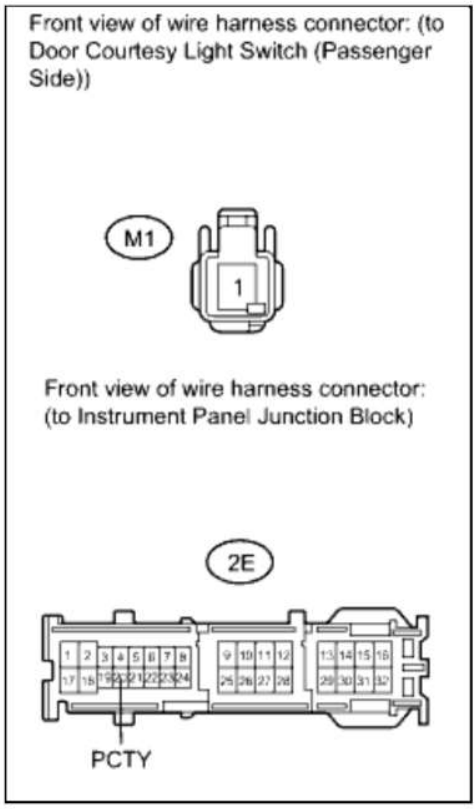
NG ▶ REPLACE FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY (PASSENGER SIDE)

OK ▼

8.	CHECK HARNESS AND CONNECTOR (FRONT DOOR COURTESY LIGHT SWITCH - JUNCTION BLOCK)

(a) Disconnect the 2E junction block connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
M1-1 - 2E-20 (PCTY)	Always	Below 1 Ω
M1-1 - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

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Last Modified: 3-10-2010	6.4 U	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000TNZ03NX
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: DATA LIST / ACTIVE TEST (2010 Corolla)		

DATA LIST / ACTIVE TEST

1. READ DATA LIST

HINT:

Using the 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.

(a) Connect the Techstream to the DLC3.

(b) Turn the ignition switch to ON.

(c) Turn the Techstream on.

(d) Enter the following menus: Body Electrical / Main Body / Data List.

(e) Read the Data List according to the display on the Techstream.

Main Body

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Key Unlock Warning SW*1	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	-
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 right door courtesy light switch signal/ON or OFF	ON: Rear right door is OPEN OFF: Rear right door is CLOSED	-
RL Door Courtesy SW	Rear left door courtesy light switch signal/ON or OFF	ON: Rear left door is OPEN OFF: Rear left door is CLOSED	-

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TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
D-Door Lock Pos SW	Driver side door lock position 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 lock position switch signal/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 to lock position	-
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 to unlock position	-
Door Key SW-Lock	Front door lock/unlock switch lock signal (key-linked lock switch)/ON or OFF	ON: Front door key cylinder is turned to lock position OFF: Front door key cylinder is turned to unlock position	-
Door Key SW-Unlock*2	Passenger door lock/unlock switch unlock signal (key-linked unlock switch)/ON or OFF	ON: Passenger door key cylinder is turned to unlock position OFF: Passenger door key cylinder is turned to lock position	-
D-Door Key SW-UL	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 turned to lock position	-
Luggage Courtesy SW	Luggage courtesy light switch signal/ON or OFF	ON: Luggage door is OPEN OFF: Luggage door is CLOSED	-

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TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Unlock Key Twice	Key-linked 2-step unlock function/ON or OFF	Customized value is displayed	-
Auto Lock	Speed-sensitive automatic door lock function/ON or OFF	Customized value is displayed	-
Auto Lock/Shift	Shift-linked automatic door lock function/ON or OFF	Customized value is displayed	-
Auto Unlock/Shift	Shift-linked automatic door unlock function/ON or OFF	Customized value is displayed	-
All Unlock/Open-Close	Driver door-linked automatic door unlock function/ON or OFF	Customized value is displayed	-

- *1: w/o Smart Key System
- *2: w/o Wireless Door Lock Control System

2. PERFORM ACTIVE TEST

HINT:

Using the 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 the Techstream to the DLC3.

(b) Turn the ignition switch to ON.

(c) Turn the Techstream on.

(d) Enter the following menus: Body Electrical / Main Body / Active Test.

(e) Perform the Active Test according to the display on the Techstream.

Main Body

TESTER DISPLAY	TEST PART	CONTROL RANGE	DIAGNOSTIC NOTE
Door Lock	Door lock motor	LOCK/UNLOCK	-
D-Door Unlock	Driver side door lock motor	ON/OFF	-

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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000PY9045X
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: DIAGNOSIS SYSTEM (2010 Corolla)		

DIAGNOSIS SYSTEM

1. CHECK DLC3

(a) Check the DLC3 INFO .

2. INSPECT BATTERY VOLTAGE

(a) Measure the battery voltage.

Standard voltage:
11 to 14 V

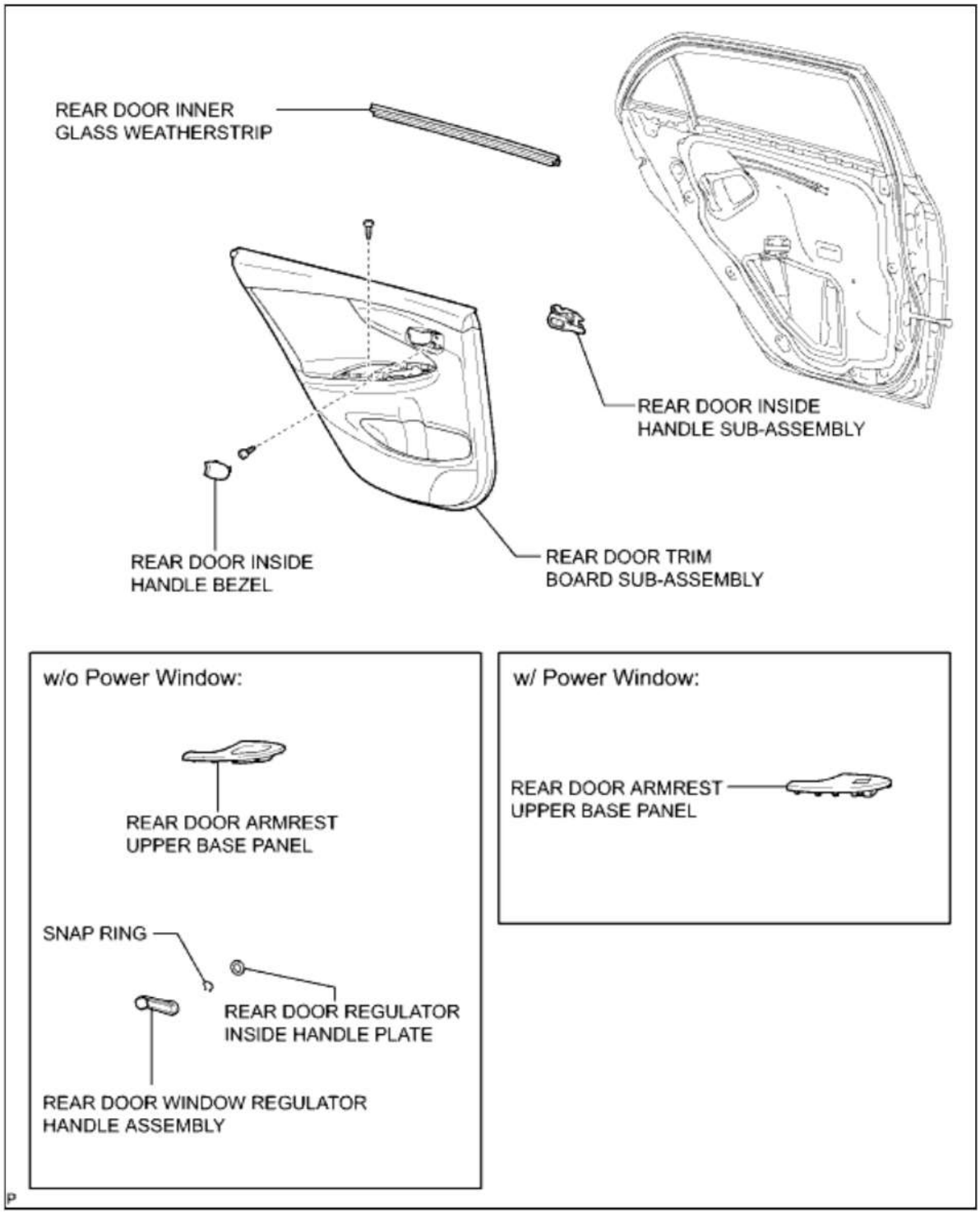
If the voltage is below 11 V, recharge or replace the battery before proceeding to the next step.

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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002Y9Y00LX
Title: DOOR LOCK: REAR DOOR LOCK: COMPONENTS (2010 Corolla)		

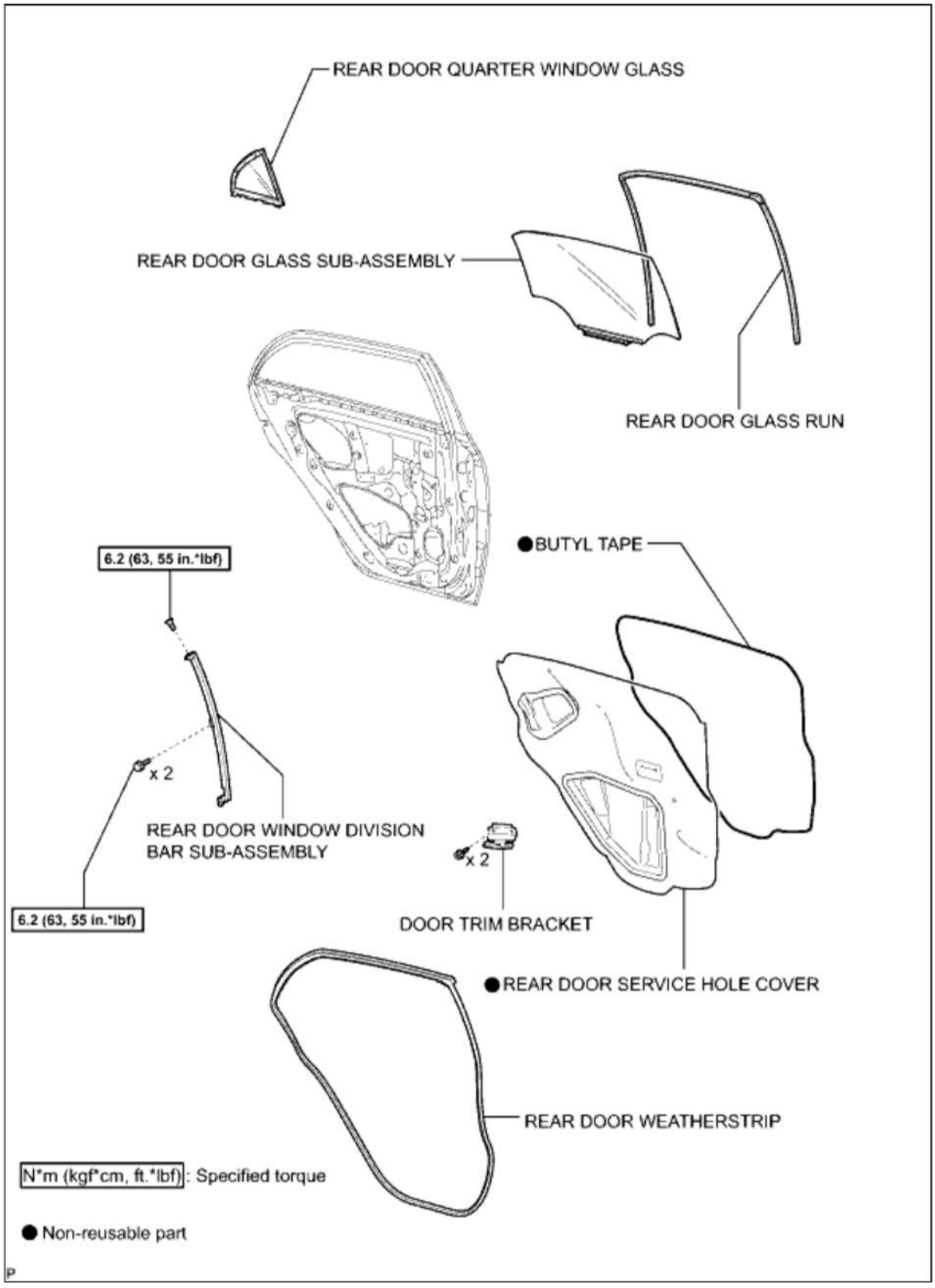
COMPONENTS

ILLUSTRATION



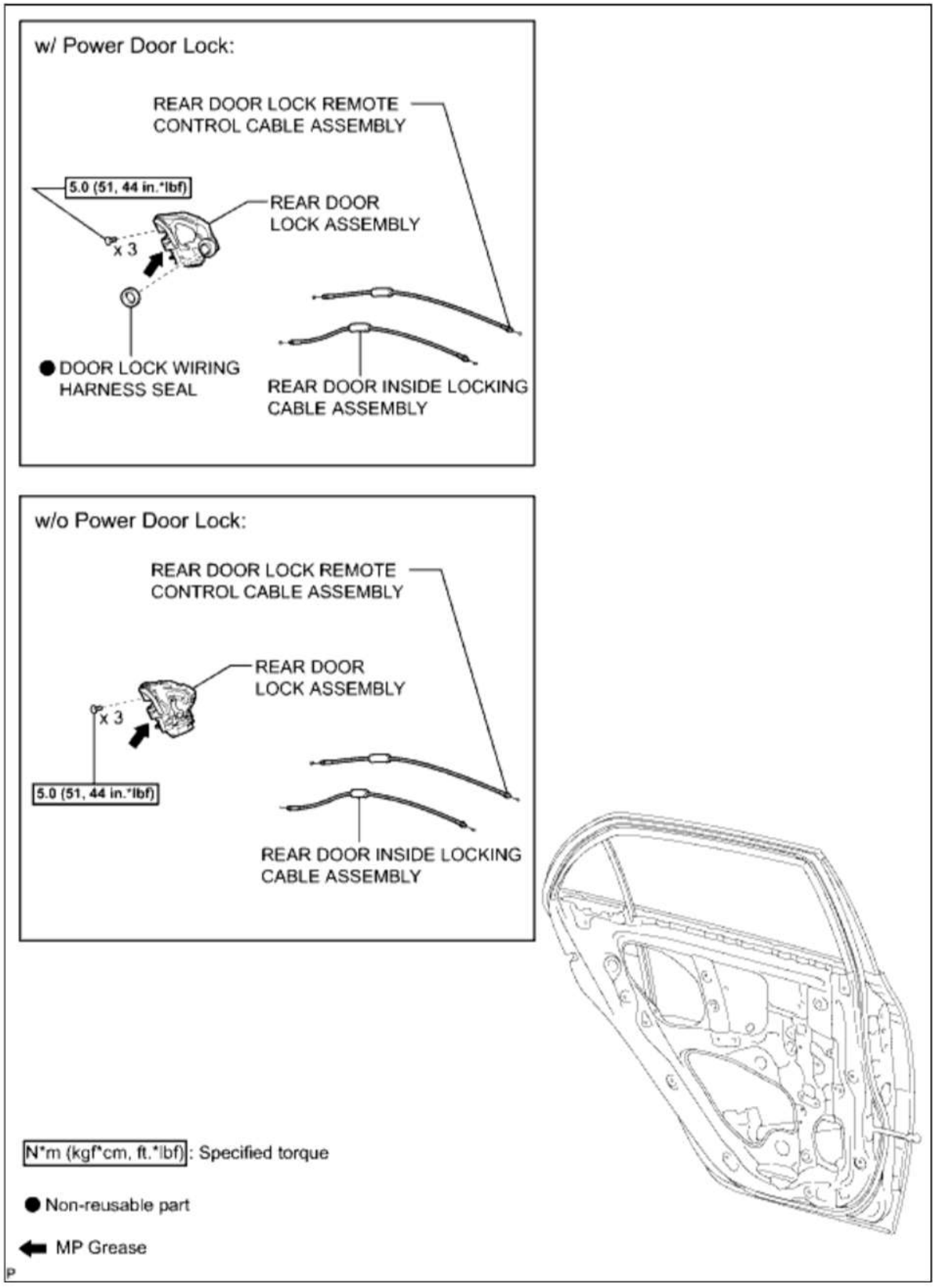
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ILLUSTRATION



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ILLUSTRATION



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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002Y9Z00NX
Title: DOOR LOCK: REAR DOOR LOCK: REMOVAL (2010 Corolla)		

REMOVAL

1. REMOVE REAR DOOR WINDOW REGULATOR HANDLE ASSEMBLY (w/o Power Window) INFO

2. REMOVE REAR DOOR INSIDE HANDLE BEZEL INFO

3. REMOVE REAR DOOR ARMREST UPPER BASE PANEL (w/o Power Window) INFO

4. REMOVE REAR DOOR ARMREST UPPER BASE PANEL (w/ Power Window) INFO

5. REMOVE REAR DOOR TRIM BOARD SUB-ASSEMBLY INFO

6. REMOVE REAR DOOR INSIDE HANDLE SUB-ASSEMBLY INFO

7. REMOVE REAR DOOR INNER GLASS WEATHERSTRIP INFO

8. REMOVE DOOR TRIM BRACKET INFO

9. REMOVE REAR DOOR SERVICE HOLE COVER INFO

10. REMOVE REAR DOOR WEATHERSTRIP INFO

11. REMOVE REAR DOOR GLASS RUN INFO

12. REMOVE REAR DOOR WINDOW DIVISION BAR SUB-ASSEMBLY INFO

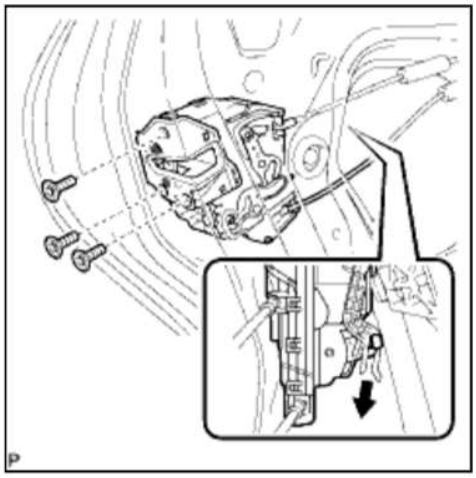
13. REMOVE REAR DOOR QUARTER WINDOW GLASS INFO

14. REMOVE REAR DOOR GLASS SUB-ASSEMBLY INFO

15. REMOVE REAR DOOR LOCK ASSEMBLY (w/o Power Door Lock)

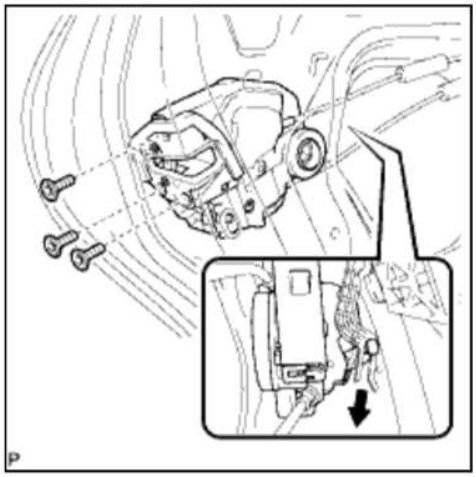
(a) Using a "TORX" socket wrench (T30), remove the 3 screws.

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(b) Move the rear door lock assembly downward and pull the release plate out of the rear door outside handle frame.

16. REMOVE REAR DOOR LOCK ASSEMBLY (w/ Power Door Lock)



(a) Using a "TORX" socket wrench (T30), remove the 3 screws.

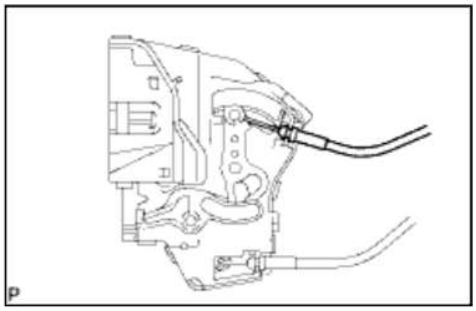
(b) Move the rear door lock assembly downward and pull the release plate out of the rear door outside handle frame.

(c) Remove the door lock wiring harness seal from the rear door lock assembly.

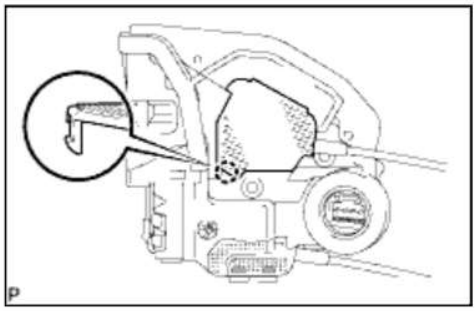
17. REMOVE REAR DOOR LOCK REMOTE CONTROL CABLE ASSEMBLY (w/o Power Door Lock)

(a) Remove the rear door lock remote control cable assembly.

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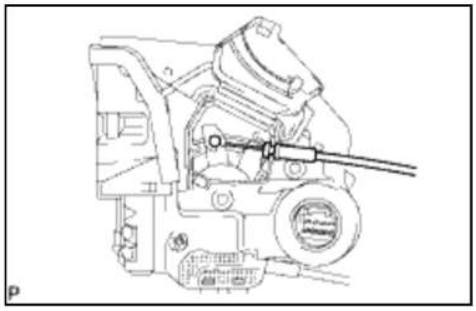
18. REMOVE REAR DOOR LOCK REMOTE CONTROL CABLE ASSEMBLY (w/ Power Door Lock)



(a) Using a screwdriver, disengage the claw.

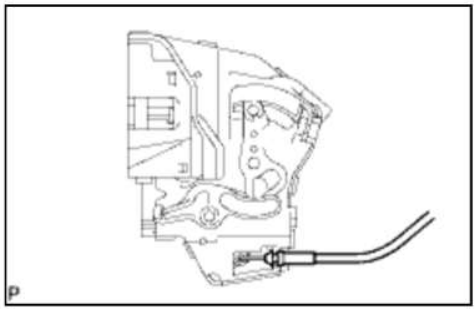
HINT:

Tape the screwdriver tip before use.



(b) Remove the rear door lock remote control cable assembly.

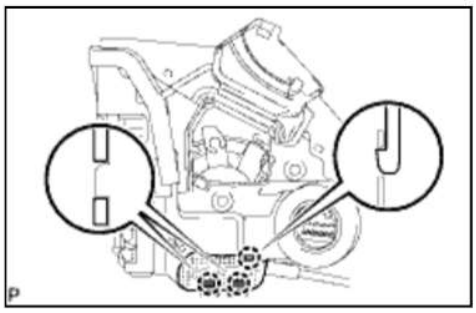
19. REMOVE REAR DOOR INSIDE LOCKING CABLE ASSEMBLY (w/o Power Door Lock)



(a) Remove the rear door inside locking cable assembly.

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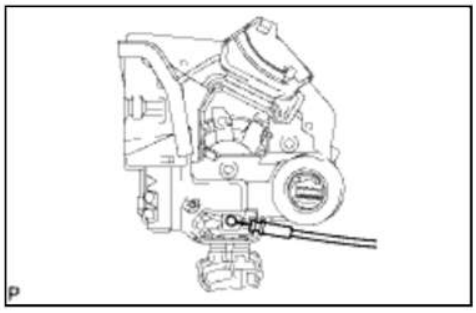
20. REMOVE REAR DOOR INSIDE LOCKING CABLE ASSEMBLY (w/ Power Door Lock)



(a) Using a screwdriver, disengage the 3 claws.

HINT:

Tape the screwdriver tip before use.



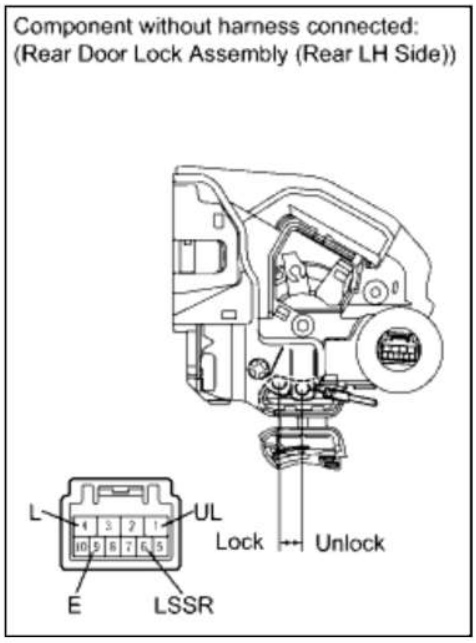
(b) Remove the rear door inside locking cable assembly.

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Last Modified: 3-10-2010	6.4 G	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001P8301AX
Title: DOOR LOCK: REAR DOOR LOCK: INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT REAR DOOR LOCK ASSEMBLY LH



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

OK:

MEASUREMENT CONDITION	SPECIFIED CONDITION
Battery positive (+) → Terminal 4 (L) Battery negative (-) → Terminal 1 (UL)	Lock
Battery positive (+) → Terminal 1 (UL) Battery negative (-) → Terminal 4 (L)	Unlock

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

(b) Measure the resistance of the door lock position switch. (w/ Smart Key System)

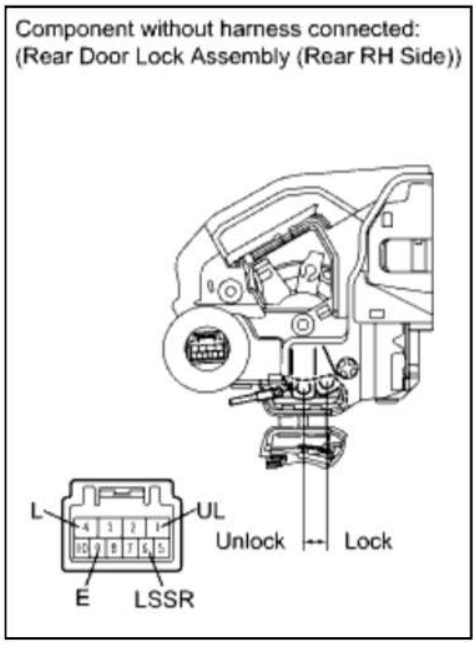
Standard resistance:

TESTER CONNECTION	MEASUREMENT CONDITION	DOOR LOCK CONDITION	SPECIFIED CONDITION
6 (LSSR) - 9 (E)	Battery positive (+) → Terminal 4 (L) Battery negative (-) → Terminal 1 (UL)	LOCK	10 kΩ or higher
6 (LSSR) - 9 (E)	Battery positive (+) → Terminal 1 (UL) Battery negative (-) → Terminal 4 (L)	UNLOCK	Below 1 Ω

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

2. INSPECT REAR DOOR LOCK ASSEMBLY RH

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

OK:

MEASUREMENT CONDITION	SPECIFIED CONDITION
Battery positive (+) → Terminal 4 (L) Battery negative (-) → Terminal 1 (UL)	Lock
Battery positive (+) → Terminal 1 (UL) Battery negative (-) → Terminal 4 (L)	Unlock

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

(b) Measure the resistance of the door lock position switch. (w/ Smart Key System)

Standard resistance:

TESTER CONNECTION	MEASUREMENT CONDITION	DOOR LOCK CONDITION	SPECIFIED CONDITION
6 (LSSR) - 9 (E)	Battery positive (+) → Terminal 4 (L) Battery negative (-) → Terminal 1 (UL)	LOCK	10 kΩ or higher
6 (LSSR) - 9 (E)	Battery positive (+) → Terminal 1 (UL) Battery negative (-) → Terminal 4 (L)	UNLOCK	Below 1 Ω

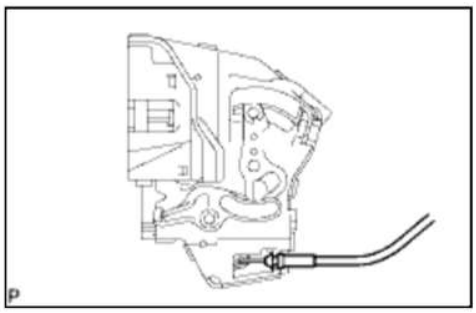
If the result is not as specified, replace the door lock assembly.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002Y9X00NX
Title: DOOR LOCK: REAR DOOR LOCK: INSTALLATION (2010 Corolla)		

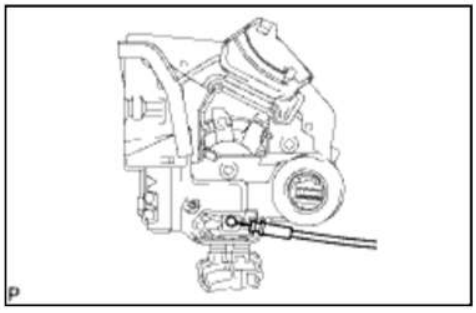
INSTALLATION

1. INSTALL REAR DOOR INSIDE LOCKING CABLE ASSEMBLY (w/o Power Door Lock)

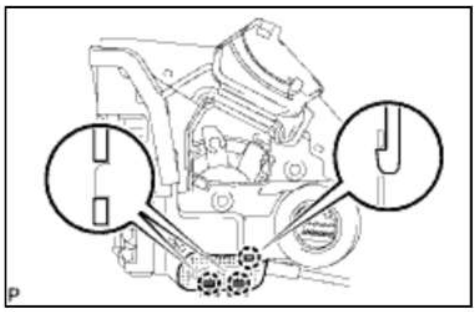


(a) Install the rear door inside locking cable assembly.

2. INSTALL REAR DOOR INSIDE LOCKING CABLE ASSEMBLY (w/ Power Door Lock)



(a) Install the rear door inside locking cable assembly.

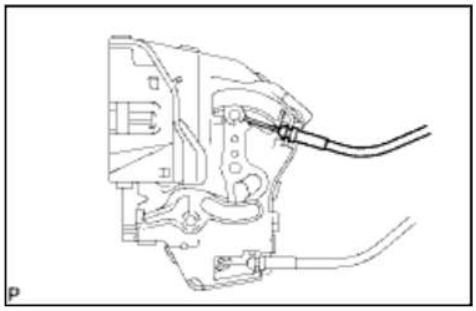


(b) Engage the 3 claws.

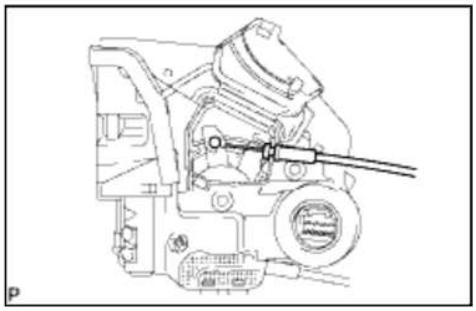
3. INSTALL REAR DOOR LOCK REMOTE CONTROL CABLE ASSEMBLY (w/o Power Door Lock)

(a) Install the rear door lock remote control cable assembly.

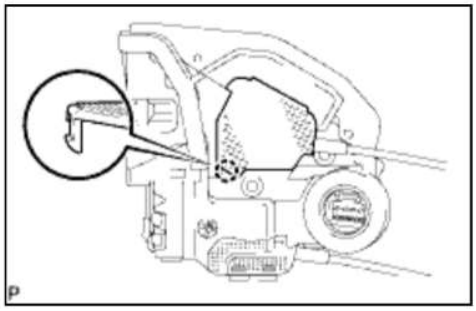
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4. INSTALL REAR DOOR LOCK REMOTE CONTROL CABLE ASSEMBLY (w/ Power Door Lock)



(a) Install the rear door lock remote control cable assembly.



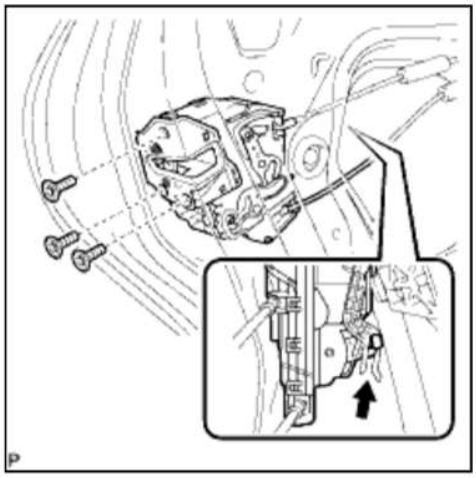
(b) Engage the claw.

5. INSTALL REAR DOOR LOCK ASSEMBLY (w/o Power Door Lock)

(a) Apply MP grease to the sliding parts of the rear door lock assembly.

(b) Insert the rear door lock assembly to the rear door outside handle release plate, and set it to the rear door panel.

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(c) Make sure that the rear door outside handle frame release plate is securely connected to the rear door lock assembly.

(d) Using a "TORX" socket wrench (T30), install the rear door lock assembly with the 3 screws.

Torque: 5.0 N·m (51 kgf·cm, 44in·lbf)

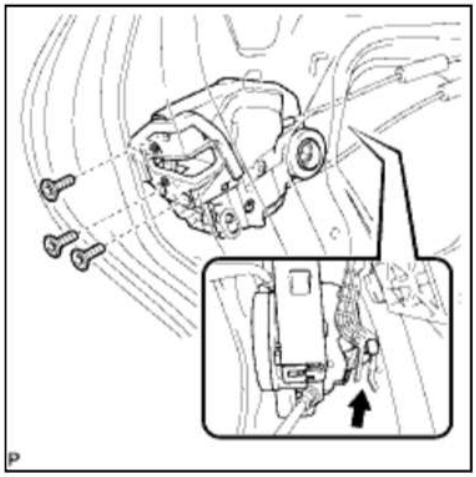
6. INSTALL REAR DOOR LOCK ASSEMBLY (w/ Power Door Lock)

NOTICE:

- When reusing the removed rear door lock assembly, replace the door lock wiring harness seal on the connector with a new one.
- Do not allow grease or dust to adhere to the door lock wiring harness seal surface of the connector.
- Reusing the door lock wiring harness seal or using a damaged door lock wiring harness seal may cause water intrusion to the connection. This may result in a malfunction of the rear door lock assembly.

(a) Apply MP grease to the sliding parts of the rear door lock assembly.

(b) Install a new door lock wiring harness seal to the rear door lock assembly.



(c) Insert the rear door lock assembly to the rear door outside handle release plate, and set it to the rear door panel.

(d) Make sure that the rear door outside handle frame release plate is securely connected to the rear

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door lock assembly.

(e) Using a "TORX" socket wrench (T30), install the rear door lock assembly with the 3 screws.

Torque: 5.0 N·m (51 kgf·cm, 44in·lbf)

(f) Connect the connector.

7. INSTALL REAR DOOR GLASS RUN INFO

8. INSTALL REAR DOOR GLASS SUB-ASSEMBLY INFO

9. INSTALL REAR DOOR QUARTER WINDOW GLASS INFO

10. INSTALL REAR DOOR WINDOW DIVISION BAR SUB-ASSEMBLY INFO

11. INSTALL REAR DOOR WEATHERSTRIP INFO

12. INSTALL REAR DOOR SERVICE HOLE COVER INFO

13. INSTALL DOOR TRIM BRACKET INFO

14. INSTALL REAR DOOR INNER GLASS WEATHERSTRIP INFO

15. INSTALL REAR DOOR INSIDE HANDLE SUB-ASSEMBLY INFO

16. INSTALL REAR DOOR TRIM BOARD SUB-ASSEMBLY INFO

17. INSTALL REAR DOOR ARMREST UPPER BASE PANEL (w/o Power Window) INFO

18. INSTALL REAR DOOR ARMREST UPPER BASE PANEL (w/ Power Window) INFO

19. INSTALL REAR DOOR INSIDE HANDLE BEZEL INFO

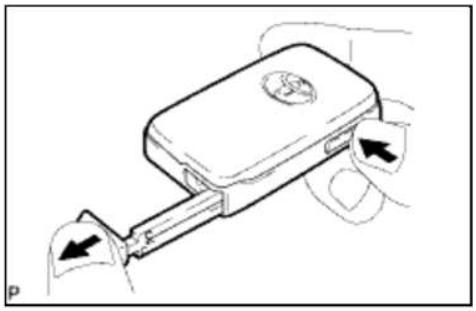
20. INSTALL REAR DOOR WINDOW REGULATOR HANDLE ASSEMBLY (w/o Power Window) INFO

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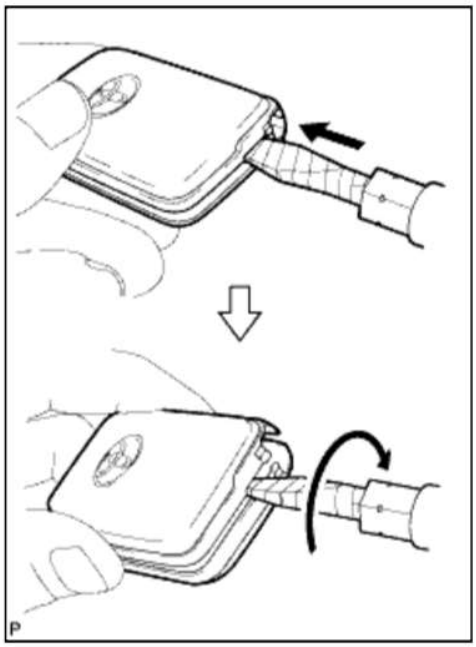
Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001P7R01QX
Title: DOOR LOCK: TRANSMITTER BATTERY (w/ Smart Key System): REPLACEMENT (2010 Corolla)		

REPLACEMENT

1. REMOVE TRANSMITTER BATTERY



(a) Remove the mechanical key.



(b) Insert a screwdriver into the gap, and turn the screwdriver to detach the cover.

HINT:

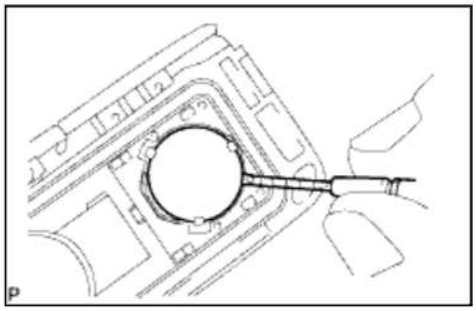
Tape the screwdriver tip before use.

(c) Insert a screwdriver into the gap and gently remove the battery (lithium battery).

NOTICE:

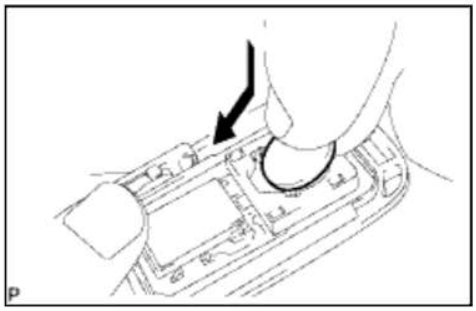
- Do not push the terminals with your finger.
- Do not forcibly pry up the battery (lithium battery) because doing so will deform the terminals.

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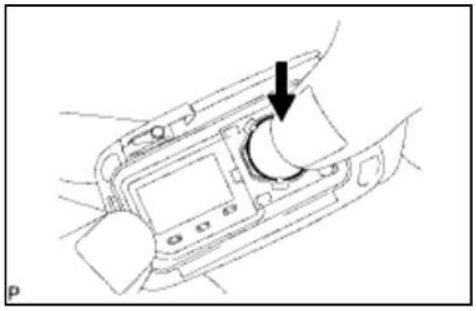


- Do not touch the battery with wet hands. Water may result in corrosion.
- Do not touch or move any components inside the transmitter because handling the components may interfere with proper operation of the transmitter.

2. INSTALL TRANSMITTER BATTERY



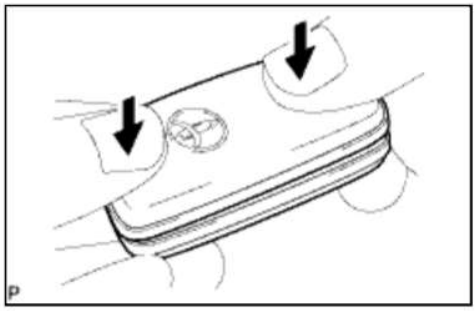
(a) Install a new battery (lithium battery) with the positive (+) side up as shown in the illustration.



(b) Press down gently on the battery to set it in place.

NOTICE:

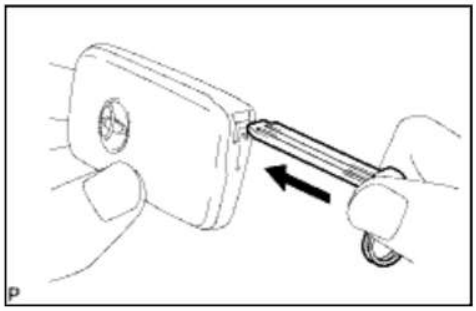
- Be sure that the positive and negative sides of the transmitter battery are positioned correctly.
- Be careful not to bend the terminals of the transmitter battery during installation.
- Keep the interior of the transmitter case free of dust, water, and oil.



(c) Install the cover by pressing it as shown in the illustration.

(d) Install the mechanical key.

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HINT:

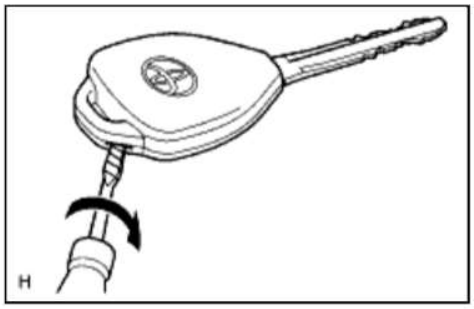
After the installation, press one of the transmitter switches and check that the LED illuminates.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000003D3H005X
Title: DOOR LOCK: TRANSMITTER BATTERY (w/o Smart Key System): REPLACEMENT (2010 Corolla)		

REPLACEMENT

1. REMOVE TRANSMITTER HOUSING COVER

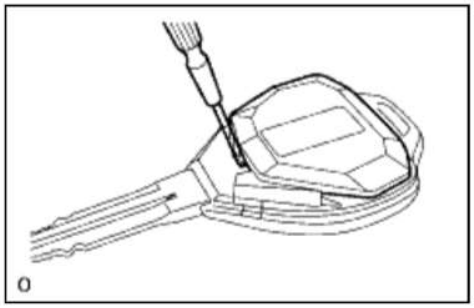


(a) Using a screwdriver with its tip wrapped in protective tape, pry open the transmitter housing cover.

NOTICE:

Do not forcibly pry the cover.

2. REMOVE DOOR CONTROL TRANSMITTER MODULE

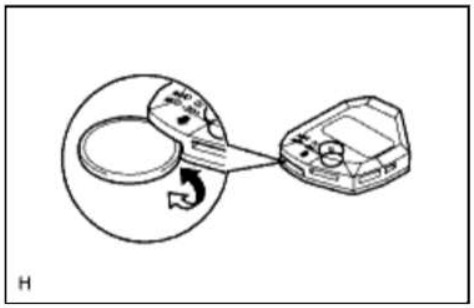


(a) Using a screwdriver with its tip wrapped in protective tape, remove the door control transmitter module from the transmitter housing case.

NOTICE:

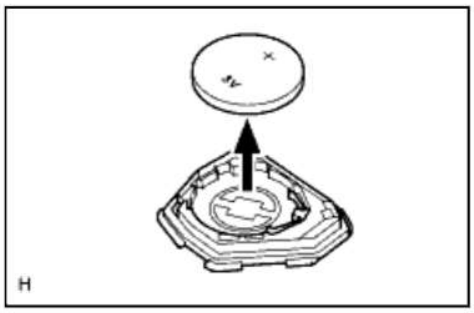
Handle each part with care as they are delicate electrical parts.

3. REMOVE TRANSMITTER BATTERY



(a) Twist the coin in the direction of the arrow mark in the illustration, and remove the transmitter battery cover.

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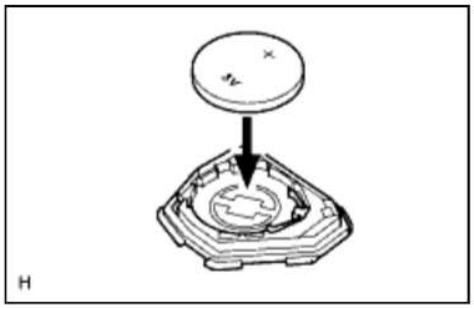


(b) Remove the battery (lithium battery: CR2025).

NOTICE:

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

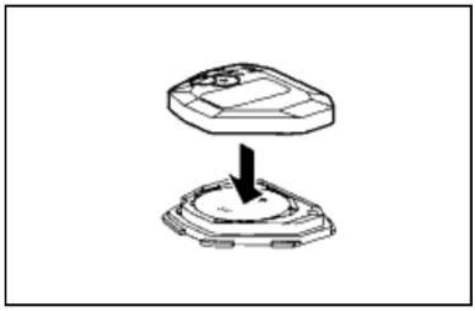
4. INSTALL TRANSMITTER BATTERY



(a) Install a battery (lithium battery: CR2025) with the positive (+) side facing upward, as shown in the illustration.

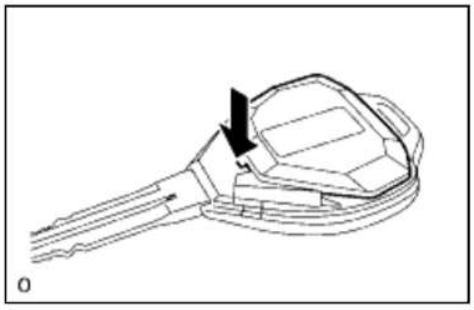
NOTICE:

- Be careful not to bend the transmitter battery electrode during insertion.
- Keep the transmitter cover interior free of dust and oil.



(b) Install the cover.

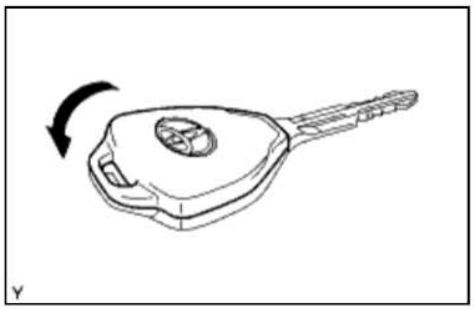
5. INSTALL DOOR CONTROL TRANSMITTER MODULE



(a) Install the door control transmitter module into the transmitter housing case, and install the transmitter housing cover securely onto the transmitter housing case.

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6. INSTALL TRANSMITTER HOUSING COVER



(a) Install the transmitter housing cover to the transmitter housing case.

(b) Check that the transmitter LED illuminates when the switch is pressed.

OK:

Transmitter LED illuminates when switch is pressed.

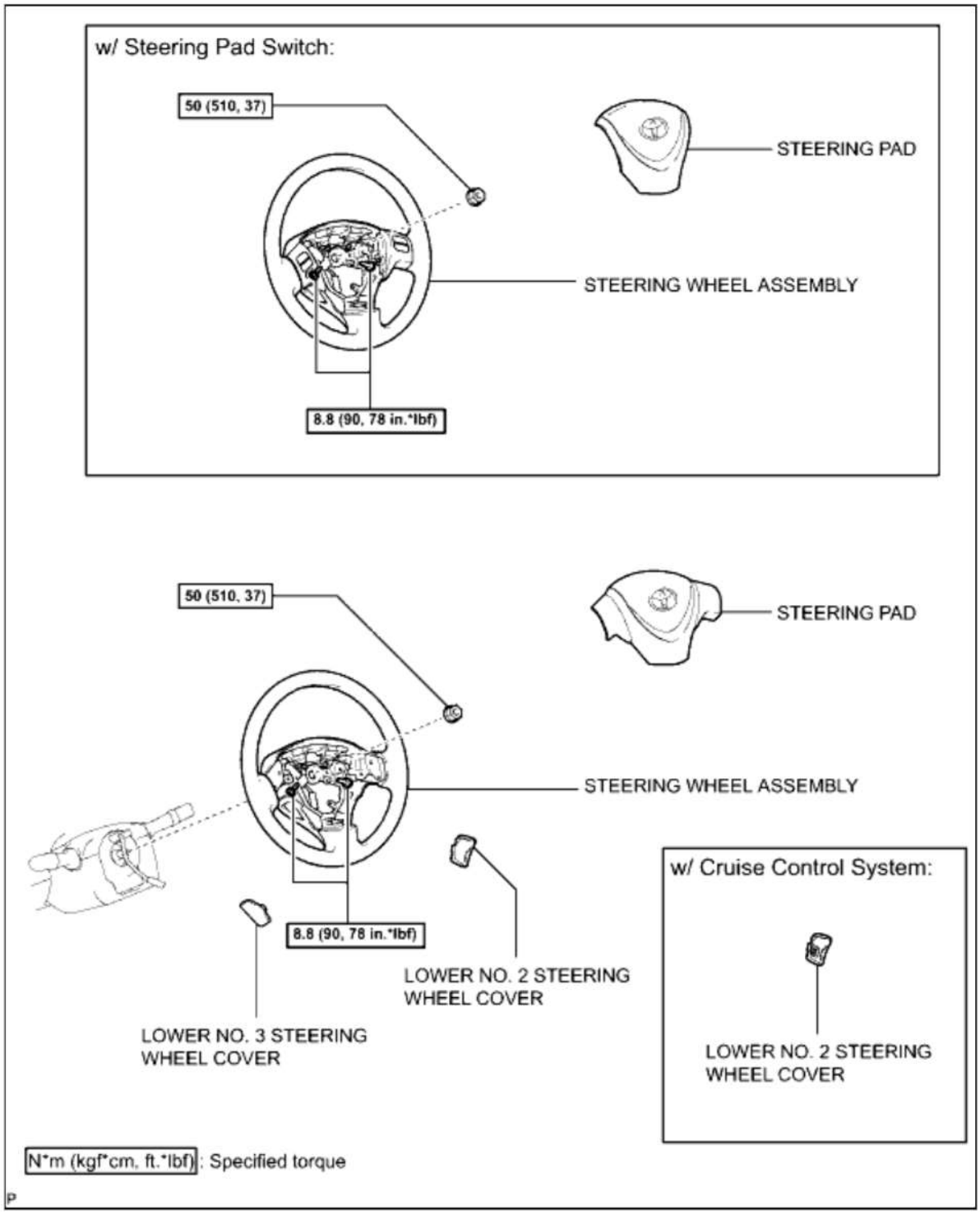
TOYOTA

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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000026TT00VX
Title: DOOR LOCK: UNLOCK WARNING SWITCH: COMPONENTS (2010 Corolla)		

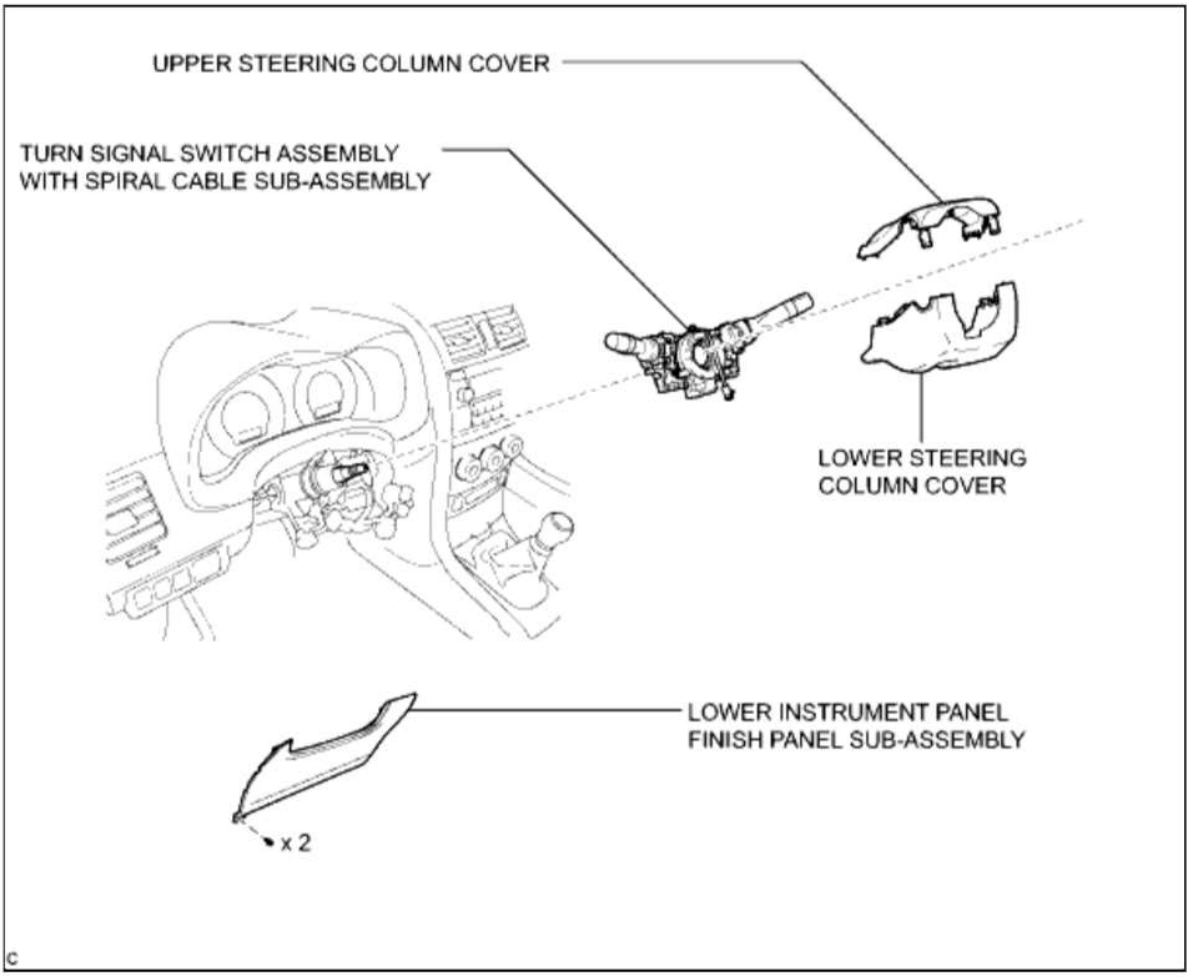
COMPONENTS

ILLUSTRATION



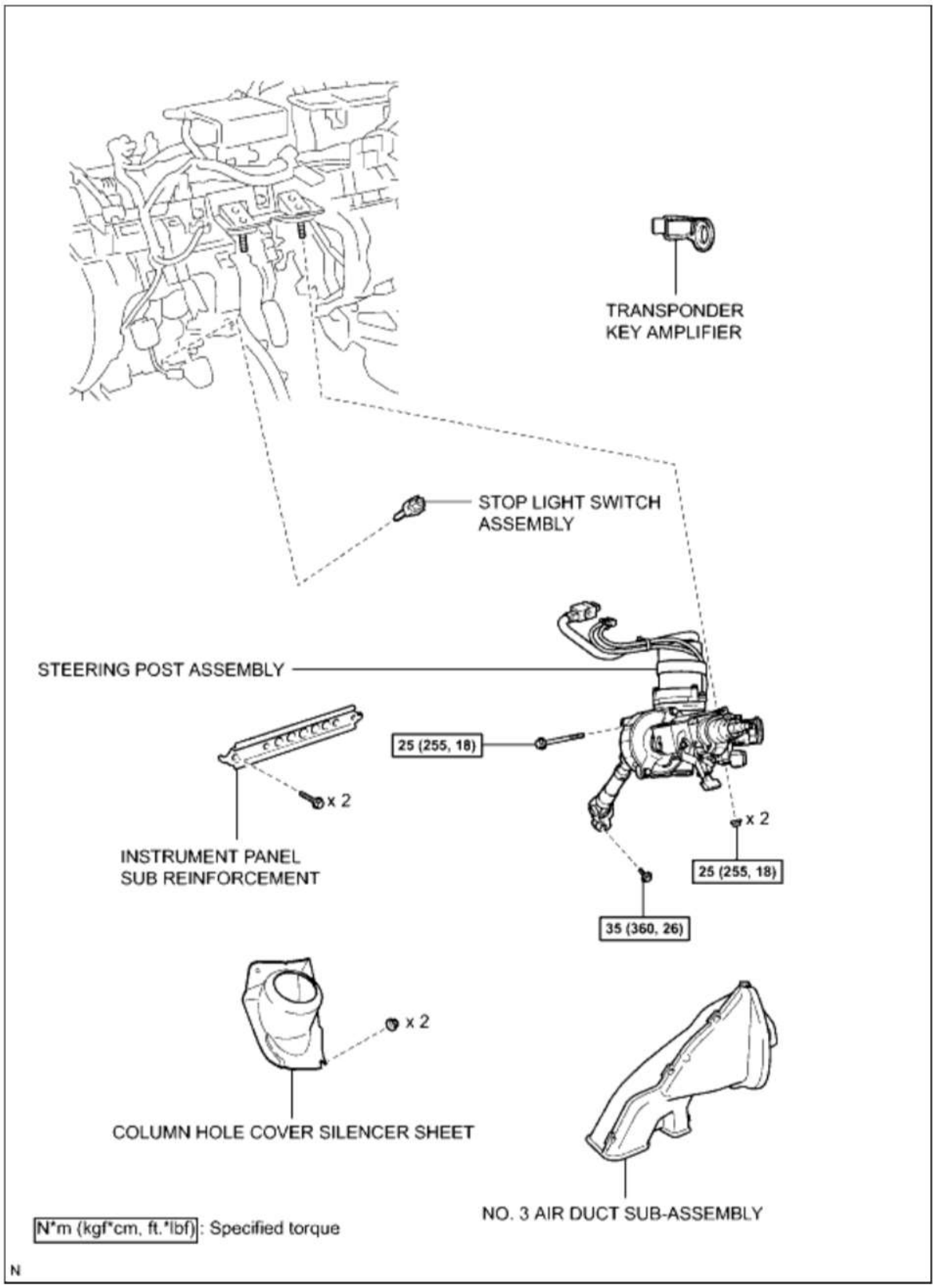
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ILLUSTRATION



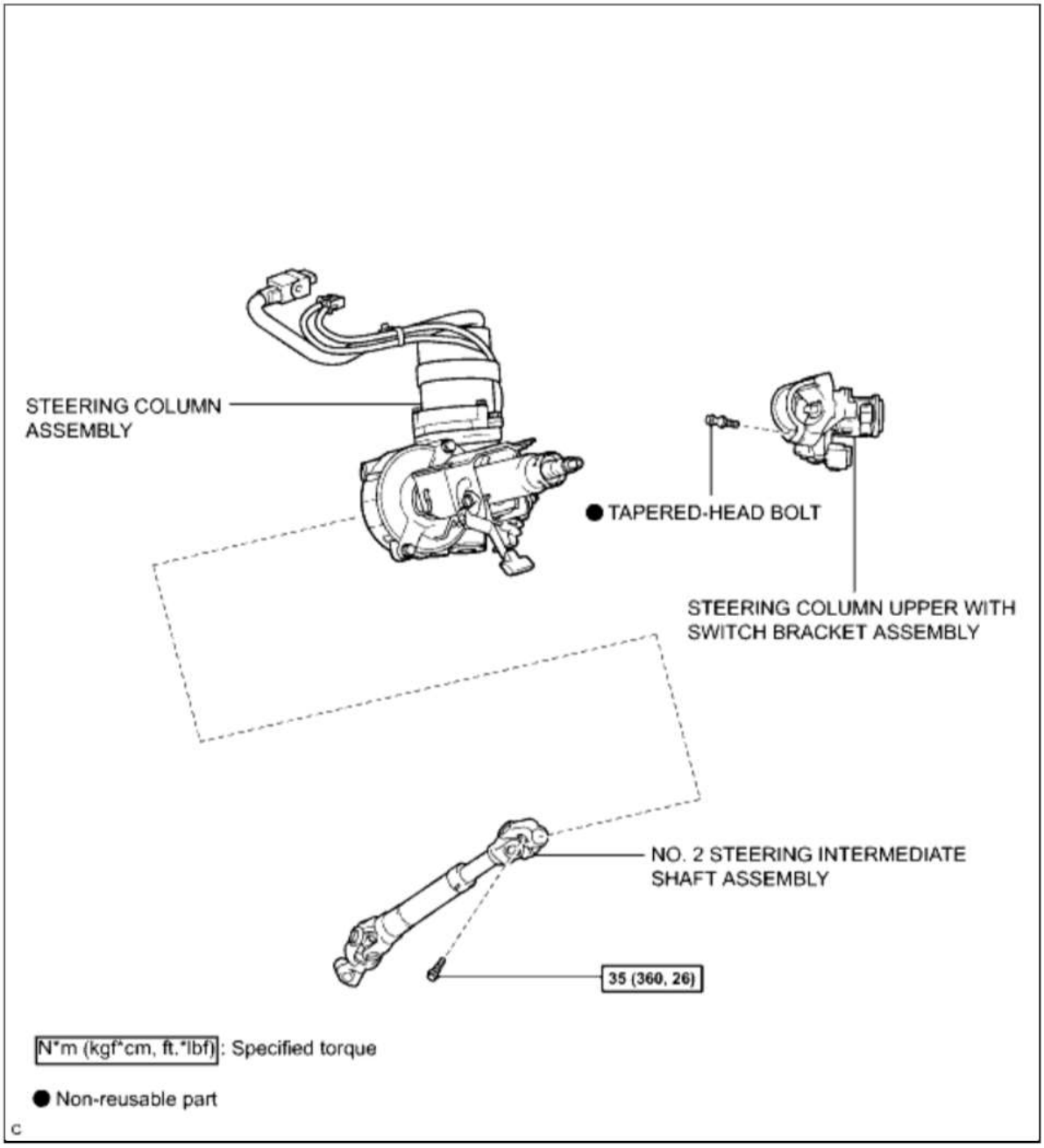
ILLUSTRATION

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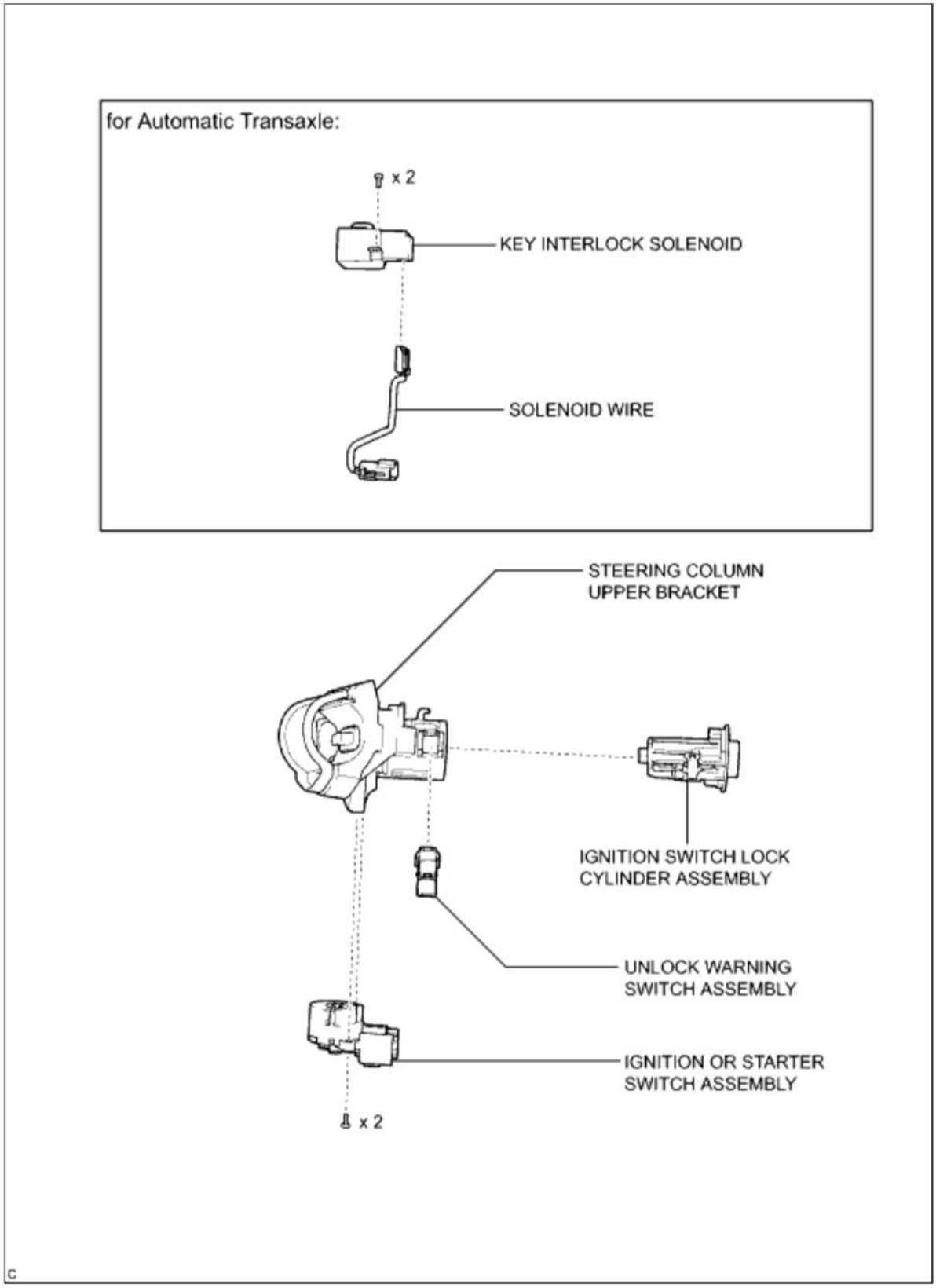
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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000026TU016X
Title: DOOR LOCK: UNLOCK WARNING SWITCH: REMOVAL (2010 Corolla)		

REMOVAL

CAUTION:

Some of these service operations affect the SRS airbag system. Read the precautionary notices concerning the SRS airbag system before servicing the steering column INFO .

1. TURN FRONT WHEELS TO FACE STRAIGHT AHEAD

2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

CAUTION:

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to prevent airbag and seat belt pretensioner activation.

3. REMOVE LOWER NO. 3 STEERING WHEEL COVER INFO

4. REMOVE LOWER NO. 2 STEERING WHEEL COVER INFO

5. REMOVE STEERING PAD INFO

6. REMOVE STEERING WHEEL ASSEMBLY INFO

7. REMOVE LOWER INSTRUMENT PANEL FINISH PANEL SUB-ASSEMBLY INFO

8. REMOVE LOWER STEERING COLUMN COVER INFO

9. REMOVE UPPER STEERING COLUMN COVER INFO

10. REMOVE TURN SIGNAL SWITCH ASSEMBLY WITH SPIRAL CABLE SUB-ASSEMBLY INFO

11. REMOVE UPPER INSTRUMENT PANEL SUB-ASSEMBLY

HINT:

Refer to the instructions for Removal of the upper instrument panel INFO .

12. REMOVE COLUMN HOLE COVER SILENCER SHEET INFO

13. SEPARATE NO. 2 STEERING INTERMEDIATE SHAFT ASSEMBLY INFO

14. REMOVE INSTRUMENT PANEL SUB REINFORCEMENT INFO

15. REMOVE NO. 3 AIR DUCT SUB-ASSEMBLY INFO

16. REMOVE TRANSPONDER KEY AMPLIFIER INFO

17. REMOVE STOP LIGHT SWITCH ASSEMBLY INFO

18. REMOVE STEERING POST ASSEMBLY (for 2ZR-FE) INFO

19. REMOVE STEERING POST ASSEMBLY (for 2AZ-FE) INFO

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20. REMOVE NO. 2 STEERING INTERMEDIATE SHAFT ASSEMBLY INFO

21. REMOVE STEERING COLUMN UPPER WITH SWITCH BRACKET ASSEMBLY INFO

22. REMOVE IGNITION OR STARTER SWITCH ASSEMBLY (for Manual Transaxle) INFO

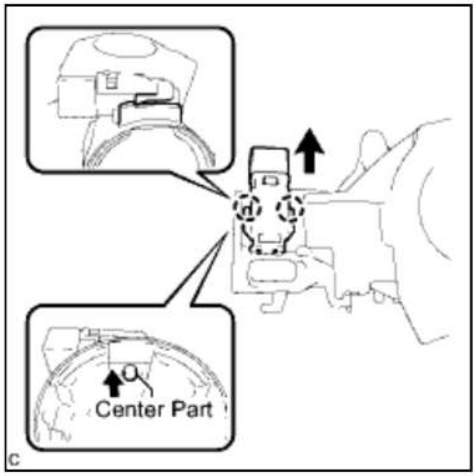
23. REMOVE IGNITION OR STARTER SWITCH ASSEMBLY (for Automatic Transaxle) INFO

24. REMOVE KEY INTERLOCK SOLENOID (for Automatic Transaxle) INFO

25. REMOVE SOLENOID WIRE (for Automatic Transaxle) INFO

26. REMOVE IGNITION SWITCH LOCK CYLINDER ASSEMBLY INFO

27. REMOVE UNLOCK WARNING SWITCH ASSEMBLY



(a) Remove the unlock warning switch assembly by pushing up the center part and releasing the 2 claws.

HINT:

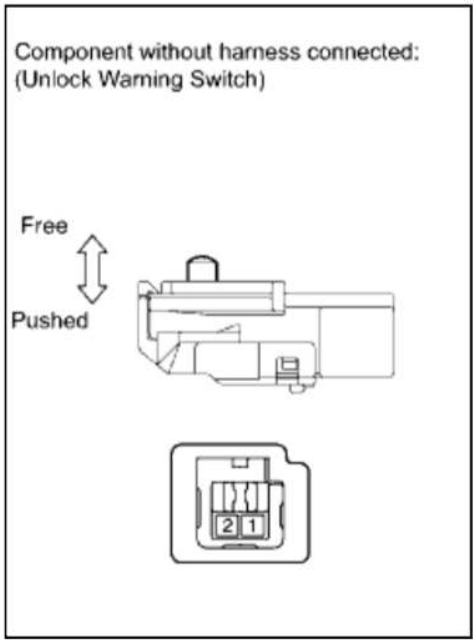
Slide the unlock warning switch in the direction shown by the arrow in the illustration to remove it.

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Last Modified: 3-10-2010	6.4 G	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000028XE00WX
Title: DOOR LOCK: UNLOCK WARNING SWITCH: INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT UNLOCK WARNING SWITCH ASSEMBLY



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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 - 2	Switch free (Key removed)	10 kΩ or higher
1 - 2	Switch pushed (Key set)	Below 1 Ω

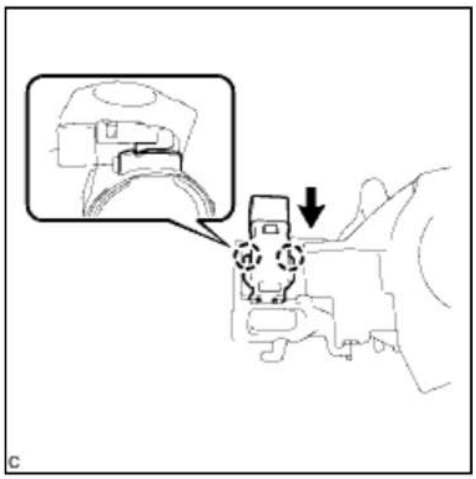
If the result is not as specified, replace the unlock warning switch assembly.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000026TS016X
Title: DOOR LOCK: UNLOCK WARNING SWITCH: INSTALLATION (2010 Corolla)		

INSTALLATION

1. INSTALL UNLOCK WARNING SWITCH ASSEMBLY



(a) Make sure that the ignition switch lock cylinder assembly is in the ACC position.

(b) Install the ignition switch lock cylinder assembly to the steering lock sub-assembly.

(c) Make sure that the ignition switch lock cylinder assembly is securely installed.

2. INSTALL IGNITION SWITCH LOCK CYLINDER ASSEMBLY INFO

3. INSTALL SOLENOID WIRE (for Automatic Transaxle) INFO

4. INSTALL KEY INTERLOCK SOLENOID INFO

5. INSTALL IGNITION OR STARTER SWITCH ASSEMBLY (for Manual Transaxle) INFO

6. INSTALL IGNITION OR STARTER SWITCH ASSEMBLY (for Automatic Transaxle) INFO

7. INSTALL STEERING LOCK OPERATION INFO

8. INSTALL STEERING COLUMN UPPER WITH SWITCH BRACKET ASSEMBLY INFO

9. INSTALL NO. 2 STEERING INTERMEDIATE SHAFT ASSEMBLY INFO

10. INSTALL STEERING POST ASSEMBLY (for 2ZR-FE) INFO

11. INSTALL STEERING POST ASSEMBLY (for 2AZ-FE) INFO

12. TURN FRONT WHEELS TO FACE STRAIGHT AHEAD

13. CONNECT NO. 2 STEERING INTERMEDIATE SHAFT ASSEMBLY INFO

14. INSTALL STOP LIGHT SWITCH ASSEMBLY INFO

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15. INSTALL NO. 3 AIR DUCT SUB-ASSEMBLY INFO

16. INSTALL INSTRUMENT PANEL SUB REINFORCEMENT INFO

17. INSTALL COLUMN HOLE COVER SILENCER SHEET INFO

18. INSTALL TRANSPONDER KEY AMPLIFIER INFO

19. INSTALL UPPER INSTRUMENT PANEL SUB-ASSEMBLY

HINT:

Refer to the instructions for Installation of the upper instrument panel INFO .

20. INSTALL TURN SIGNAL SWITCH ASSEMBLY WITH SPIRAL CABLE SUB-ASSEMBLY INFO

21. INSTALL UPPER STEERING COLUMN COVER INFO

22. INSTALL LOWER STEERING COLUMN COVER INFO

23. INSTALL LOWER INSTRUMENT PANEL FINISH PANEL SUB-ASSEMBLY INFO

24. TURN FRONT WHEELS TO FACE STRAIGHT AHEAD

25. ADJUST SPIRAL CABLE INFO

26. INSTALL STEERING WHEEL ASSEMBLY INFO

27. INSTALL STEERING PAD INFO

28. INSTALL LOWER NO. 3 STEERING WHEEL COVER INFO

29. INSTALL LOWER NO. 2 STEERING WHEEL COVER INFO

30. INSPECT STEERING WHEEL CENTER POINT

31. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

32. INSPECT STEERING PAD INFO

33. INSPECT SRS WARNING LIGHT

INFO

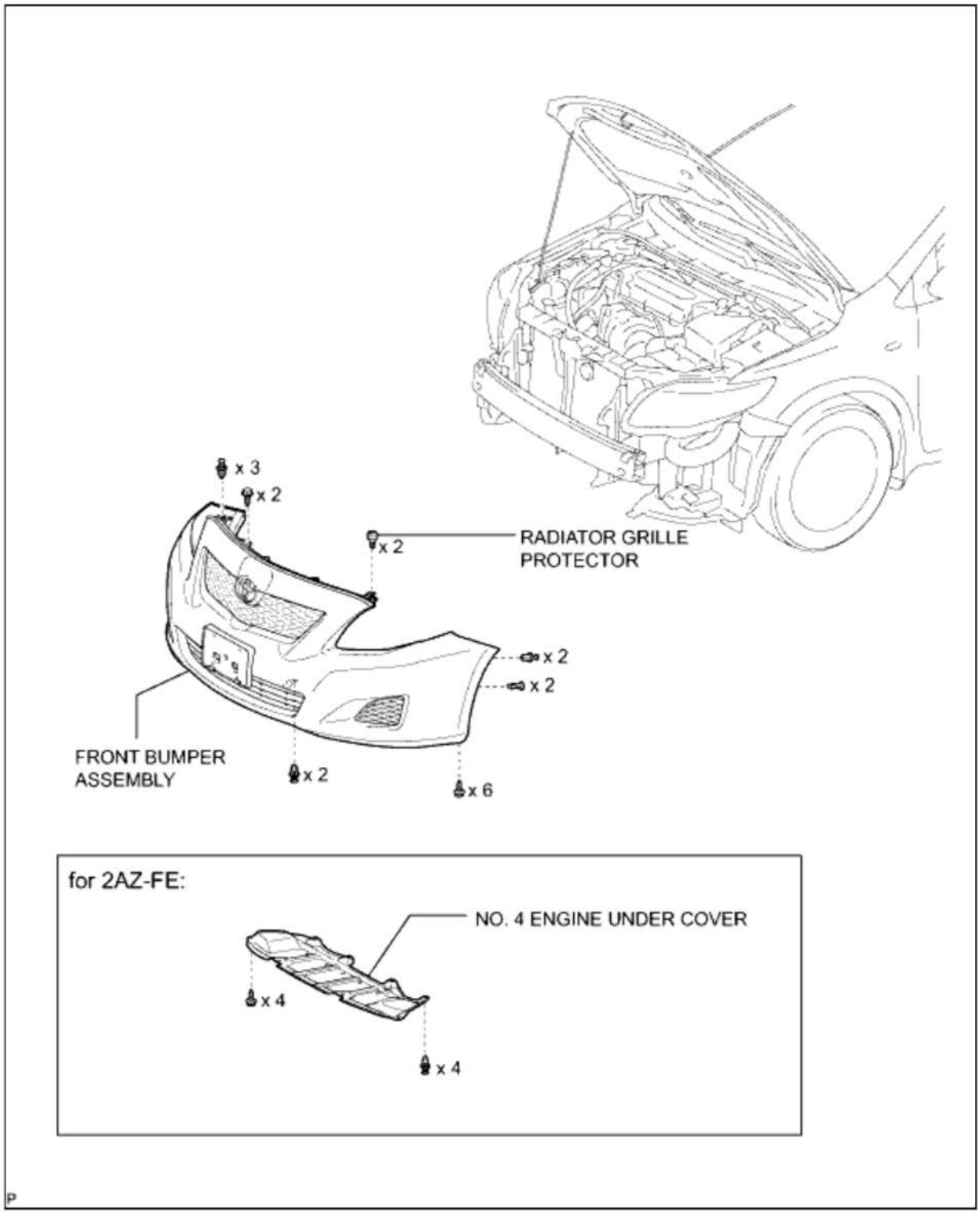


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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002XKV00HX
Title: DOOR LOCK: WIRELESS DOOR LOCK BUZZER: COMPONENTS (2010 Corolla)		

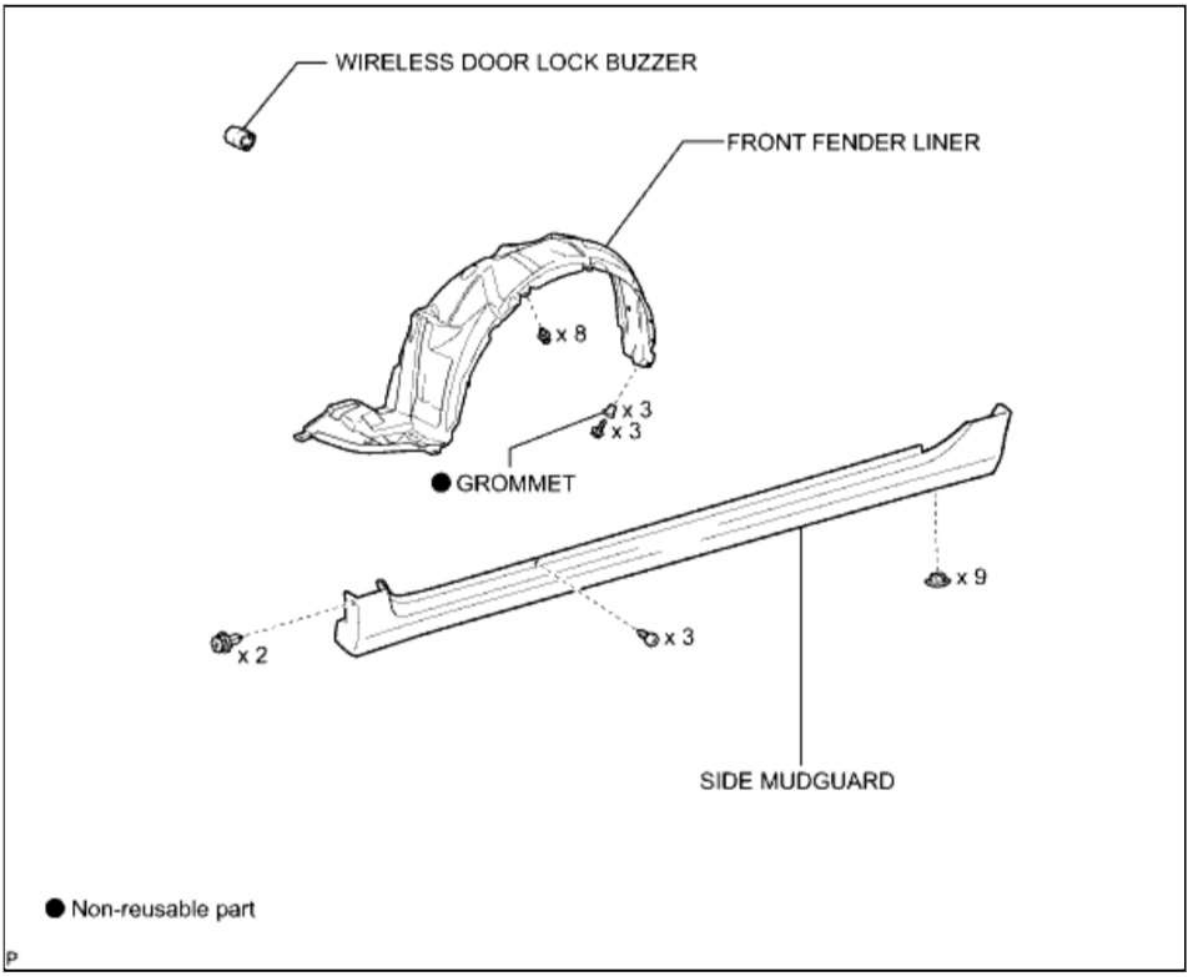
COMPONENTS

ILLUSTRATION



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ILLUSTRATION



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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002XKW00IX
Title: DOOR LOCK: WIRELESS DOOR LOCK BUZZER: REMOVAL (2010 Corolla)		

REMOVAL

1. REMOVE RADIATOR GRILLE PROTECTOR INFO

2. REMOVE NO. 4 ENGINE UNDER COVER (for 2AZ-FE) INFO

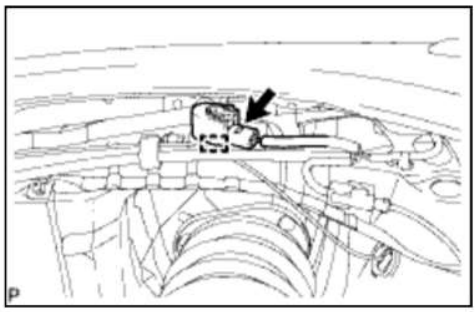
3. REMOVE FRONT BUMPER ASSEMBLY INFO

4. REMOVE SIDE MUDGUARD INFO

5. REMOVE FRONT WHEEL

6. REMOVE FRONT FENDER LINER INFO

7. REMOVE WIRELESS DOOR LOCK BUZZER



(a) Disconnect the connector.

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

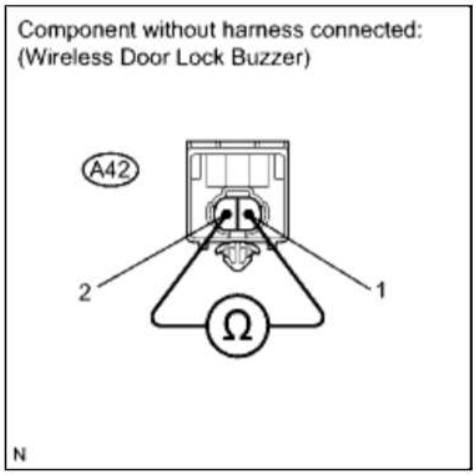
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Last Modified: 3-10-2010	6.4 G	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002XKU00OX
Title: DOOR LOCK: WIRELESS DOOR LOCK BUZZER: INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT WIRELESS DOOR LOCK BUZZER

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



HINT:

The buzzer activation circuit is built into the ECU, not into the buzzer itself. When battery voltage is applied directly to the buzzer, the buzzer will not sound.

Standard resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A42-1 - A42-2	Always	950 to 1050 Ω

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

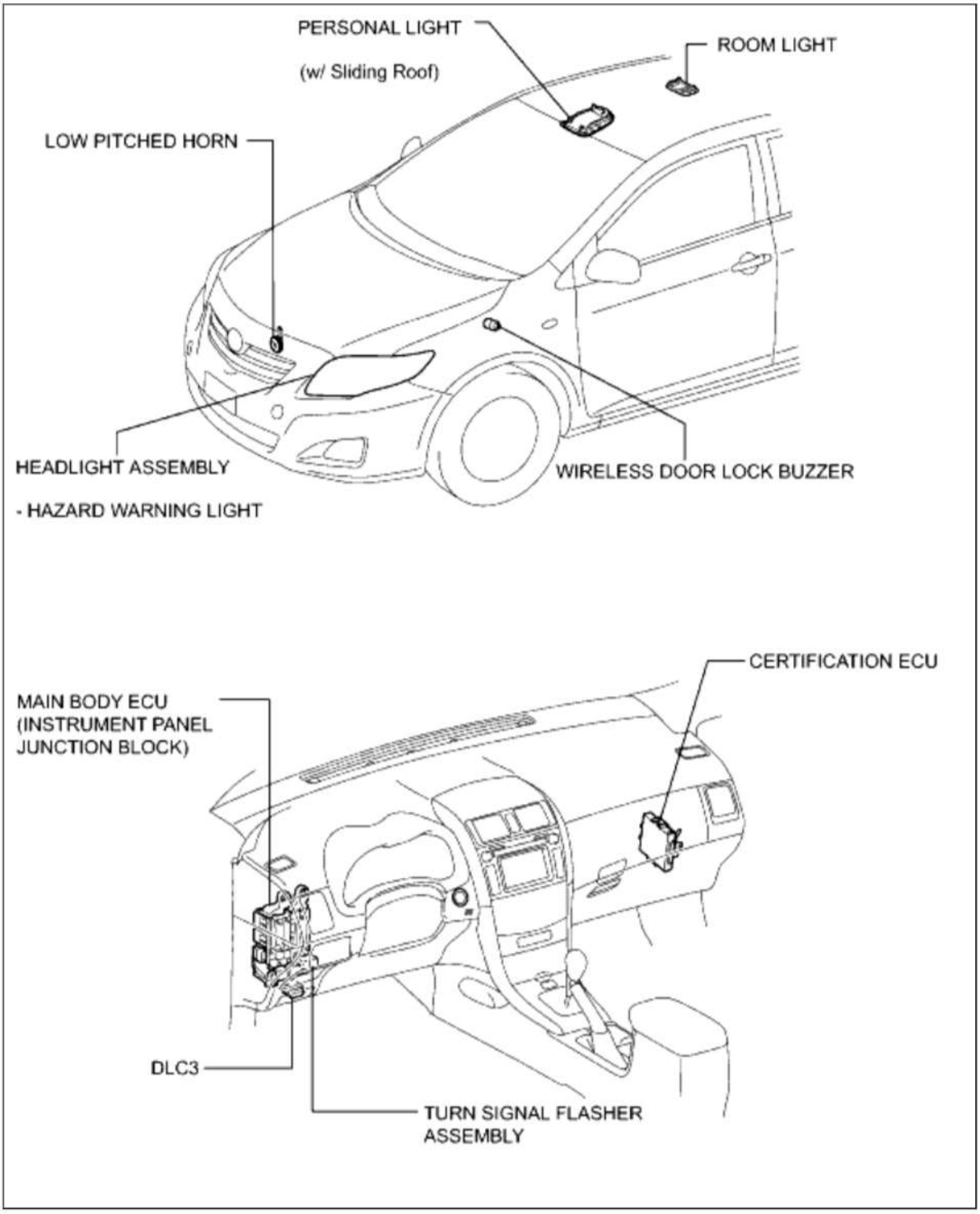
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Last Modified: 3-10-2010	6.4 R	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000026DC00WX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/ Smart Key System): PARTS LOCATION (2010 Corolla)		

PARTS LOCATION

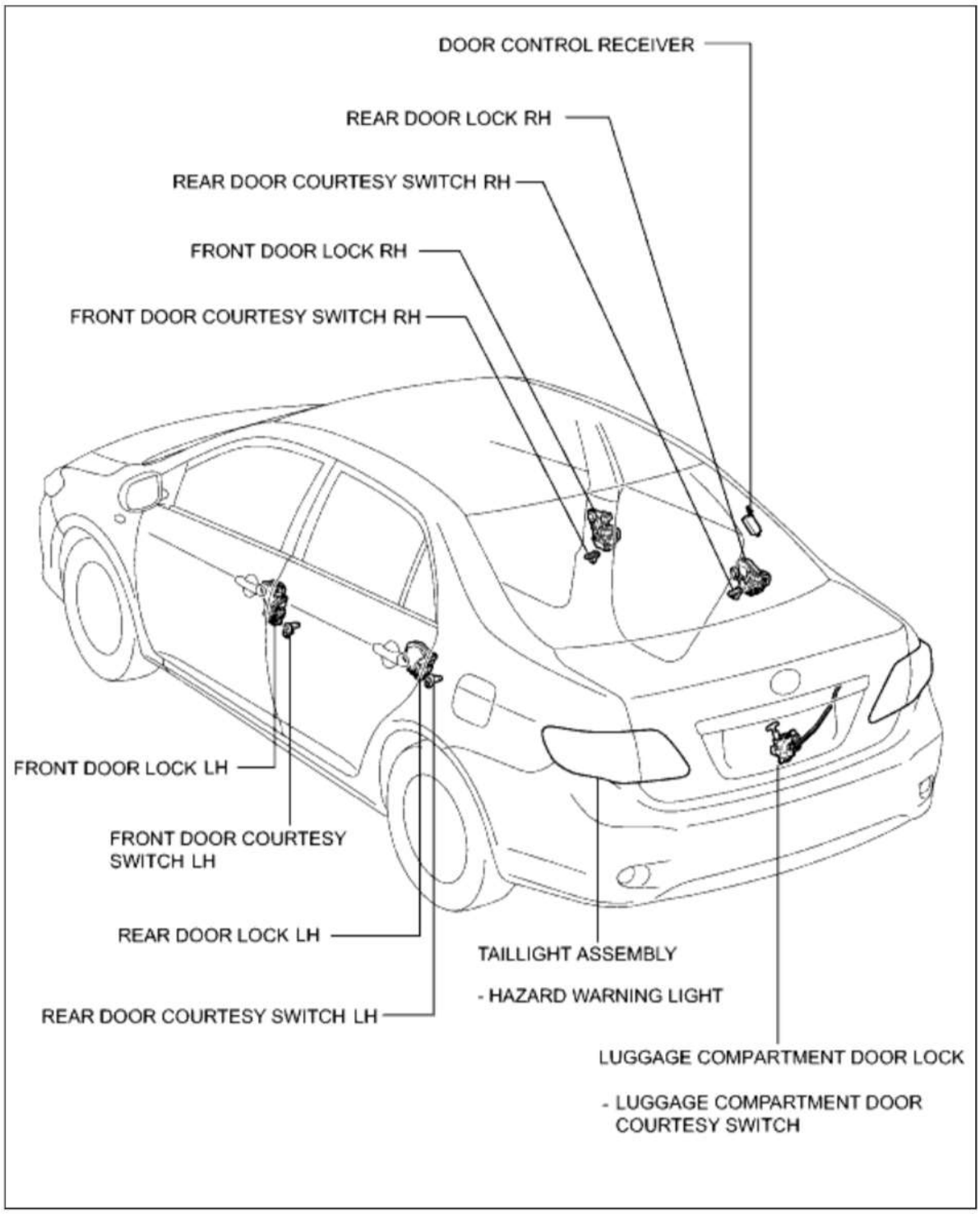
ILLUSTRATION

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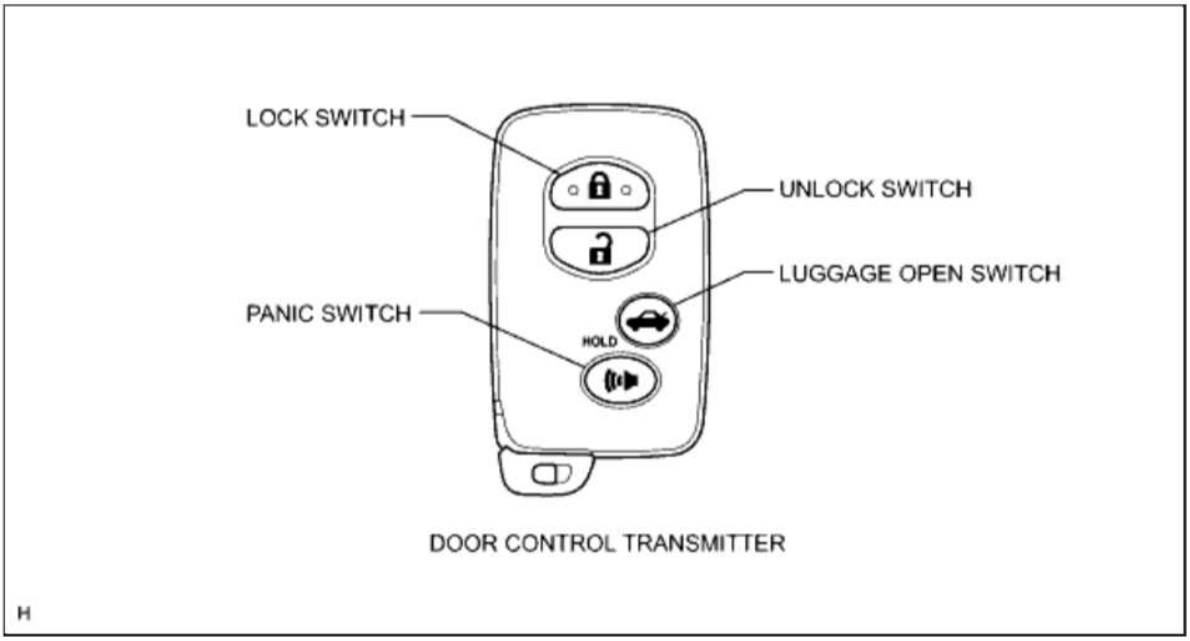
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DOOR CONTROL TRANSMITTER

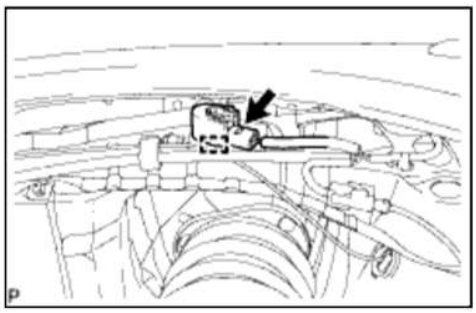
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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002XKT00JX
Title: DOOR LOCK: WIRELESS DOOR LOCK BUZZER: INSTALLATION (2010 Corolla)		

INSTALLATION

1. INSTALL WIRELESS DOOR LOCK BUZZER



(a) Connect the connector.

(b) Install the wireless door lock buzzer with the clamp.

2. INSTALL FRONT FENDER LINER INFO

3. INSTALL FRONT WHEEL

Torque: 103 N·m (1050 kgf·cm, 76ft·lbf)

4. INSTALL SIDE MUDGUARD INFO

5. INSTALL FRONT BUMPER ASSEMBLY INFO

6. INSTALL NO. 4 ENGINE UNDER COVER (for 2AZ-FE) INFO

7. INSTALL RADIATOR GRILLE PROTECTOR INFO

8. VEHICLE PREPARATION FOR FOG LIGHT AIMING (w/ Fog Light) INFO

9. PREPARATION FOR FOG LIGHT AIMING (w/ Fog Light) INFO

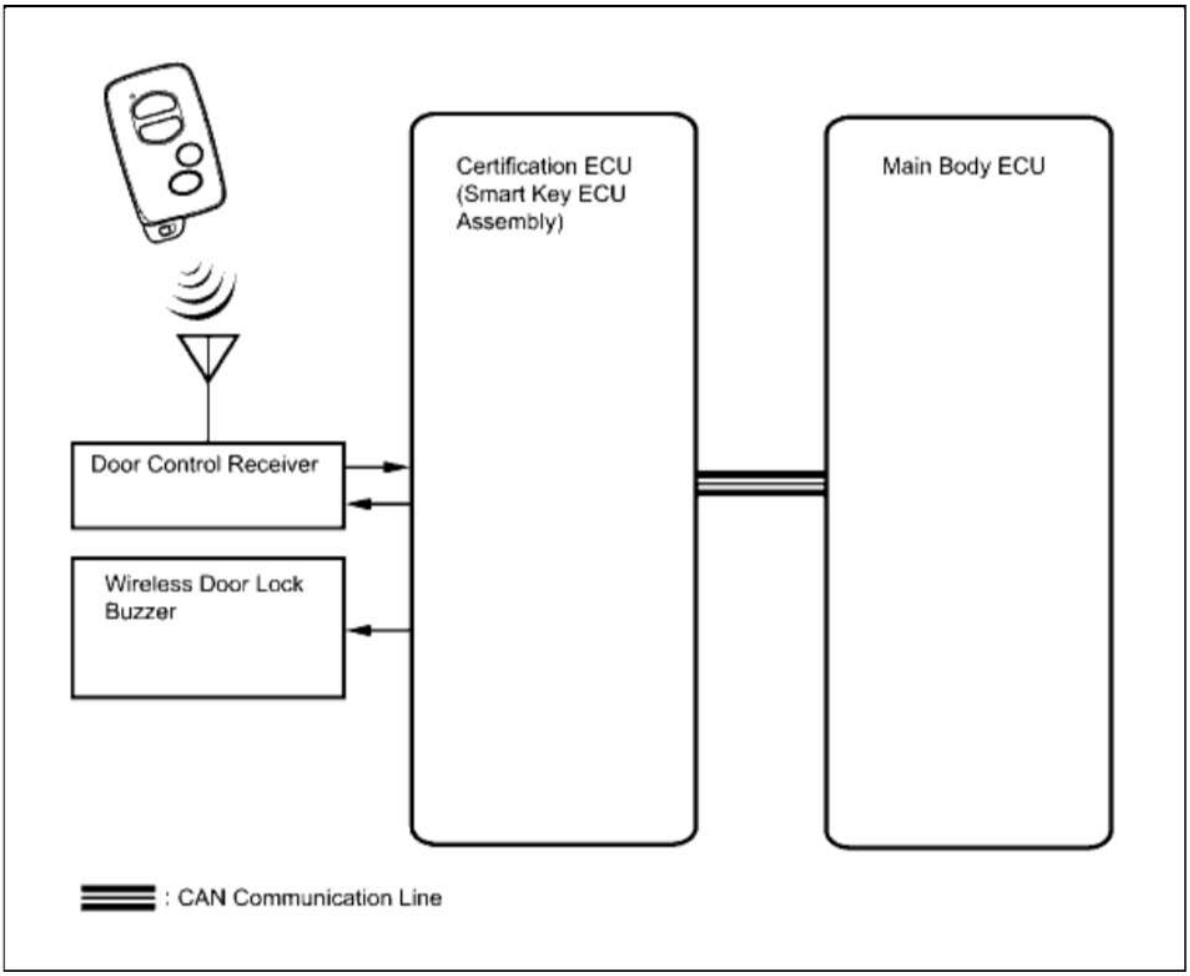
10. INSPECT FOG LIGHT AIMING (w/ Fog Light) INFO

11. ADJUST FOG LIGHT AIMING (w/ Fog Light) INFO

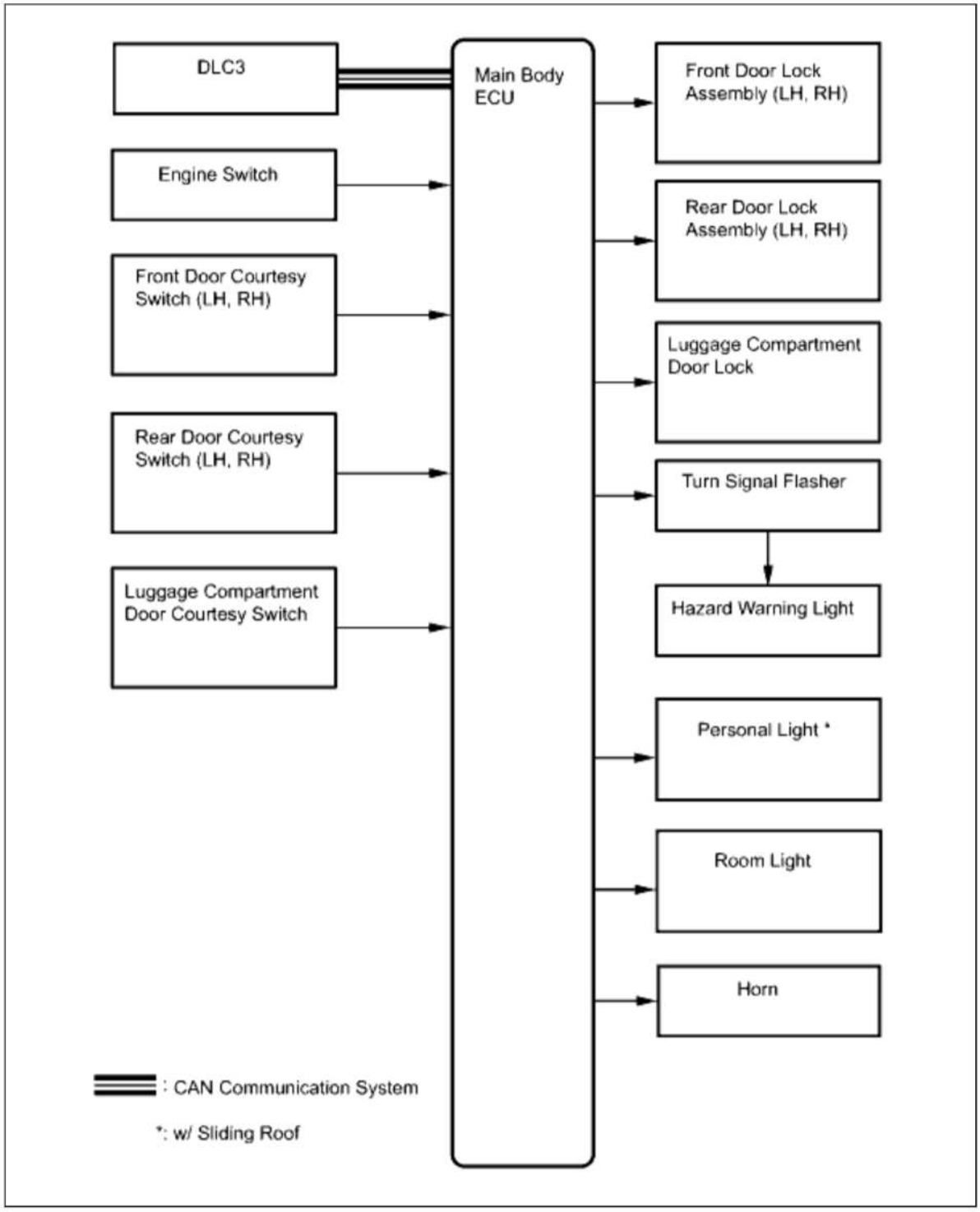
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Last Modified: 3-10-2010	6.4 U	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002IZ200TX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/ Smart Key System): SYSTEM DIAGRAM (2010 Corolla)		

SYSTEM DIAGRAM



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TRANSMITTING ECU (TRANSMITTER)	RECEIVING ECU (RECEIVER)	SIGNAL	LINE
Certification ECU	Main Body ECU	Wireless door lock signal	CAN

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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000010J306JX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/ Smart Key System): HOW TO PROCEED WITH TROUBLESHOOTING (2010 Corolla)		

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

The wireless door lock control system troubleshooting procedure is based on the premise that the power door lock control system is operating normally. Check the power door lock control system first before troubleshooting the wireless door lock control system INFO .

Use this procedure to troubleshoot the wireless door lock control system.

1.	**VEHICLE BROUGHT TO WORKSHOP**

NEXT

2.	**CUSTOMER PROBLEM ANALYSIS**

(a) Interview the customer to confirm the trouble INFO .

NEXT

3.	**INSPECT COMMUNICATION FUNCTION OF CAN COMMUNICATION SYSTEM**

(a) Use the Techstream to check for normal function of the can communication system.

Result:

RESULT	PROCEED TO
CAN DTC is not output	A
CAN DTC is output	B

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B INFO Go to CAN COMMUNICATION SYSTEM

A

4.	DTC CHECK

(a) Check for DTCs and note any codes that are output.

(b) Clear the DTCs.

(c) Recheck for DTCs.

Result:

RESULT	PROCEED TO
DTC does not recur	A
DTC recurs	B

B INFO Go to DTC CHECK/CLEAR

A

5.	SYMPTOM SIMULATION

NEXT

6.	PROBLEM SYMPTOMS TABLE

(a) If the fault is not listed in the problem symptoms table, proceed to A.

(b) If the fault is listed in the problem symptoms table, proceed to B.

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B ▶ Go to step 8

A ▼

7.	PERFORM TROUBLESHOOTING ACCORDING TO MALFUNCTION SYMPTOM

(a) Terminals of ECU INFO

(b) Data List/Active Test INFO

NEXT ▼

8.	ADJUST, REPAIR OR REPLACE

NEXT ▼

9.	CONFIRMATION TEST

NEXT ▶ END

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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002IZ100TX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/ Smart Key System): SYSTEM DESCRIPTION (2010 Corolla)		

SYSTEM DESCRIPTION

1. WIRELESS DOOR LOCK CONTROL SYSTEM

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 certification ECU performs an ID code identification process and engages the door lock.

2. FUNCTION OF MAIN COMPONENTS

COMPONENT	FUNCTION
Door control transmitter	• Has LOCK, UNLOCK, LUGGAGE OPEN and PANIC switches. • Transmits weak radio waves (recognition codes and function codes) to the door control receiver.
Door control receiver	Receives weak radio waves from the door control transmitter and sends them to the certification ECU.
• Front door courtesy light switch • Rear door courtesy light switch • Luggage compartment door courtesy light switch	Turns on when a door is opened and turns off when it is closed. Outputs door status codes (open or closed) to the main body ECU.
Door lock position switch	Transmits the door lock positions of each door to the main body ECU.
Certification ECU	Sends wireless door lock control signals in response to the code data from the door control receiver and signals from each ECU.

3. SYSTEM FUNCTION

The door control transmitter has LOCK, UNLOCK, LUGGAGE OPEN and PANIC 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. Some of these functions can be customized INFO **.**

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FUNCTION	OPERATION
All door lock	Pressing the LOCK switch locks all doors.
All door unlock (Unlock 2 operation)	Pressing the UNLOCK switch twice within 3 seconds unlocks all the doors after the driver's door is unlocked.
Automatic lock	If none of the doors is opened within 60 seconds after they are unlocked by the wireless door lock control, all the doors will lock again automatically.
Luggage compartment door open	Pressing the LUGGAGE OPEN switch of the transmitter opens the luggage compartment door.
Answer back	• When the doors are locked by wireless operation, the hazard warning lights flash once, and wireless door lock buzzer sounds once. • When the doors are unlocked by wireless operation, the hazard warning lights flash twice and wireless door lock buzzer sounds twice. • When the luggage compartment door is opened by wireless operation, the wireless door lock buzzer sounds.
Panic alarm	Pressing the PANIC switch of the transmitter for longer than about 0.8 seconds causes the following alarms to activate: • Sounds the horn. • Flashes the hazard lights. • Illuminates the front interior light (when the switch is in the DOOR position). While the panic alarm is operating, pressing any switch of the transmitter cancels the alarm operation.
Door ajar warning	The buzzer sounds when the LOCK switch is pressed when any of the doors are ajar, and it sounds for 10 seconds continuously. The buzzer stops when all doors are closed or the UNLOCK switch is pressed.
Illuminated Entry	When all the doors are locked, pressing the UNLOCK switch causes the interior light to come on simultaneously with the unlock operation.

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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000027AH018X
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/ Smart Key System): OPERATION CHECK (2010 Corolla)		

OPERATION CHECK

1. FUNCTIONS AND OPERATING CONDITIONS

(a) This wireless door lock control function operates only when the following 4 conditions are met:

(1) There is no wireless transmitter in the cabin.

(2) All the doors are closed.

(3) The power door lock system is functioning normally.

(4) The function is not disabled by customization.

HINT:

The UNLOCK function operates even when any of the doors are open.

(b) The wireless transmitter operational range differs depending on the situation.

(1) The operational range differs depending on the user, the way the transmitter is held, and the location.

(2) In certain areas, the operational range will be reduced due to the vehicle body shape and the influence of the surrounding environment.

(3) Since the transmitter uses weak radio waves, the operational range may be reduced or the transmitter may not function if interference or stronger radio waves occur in the area where the transmitter is used.

(4) When the battery is low, the operational range is reduced and/or the transmitter may not function.

HINT:

If the transmitter has been left in a place that is exposed to direct sunlight, such as on the instrument panel, the battery may be weakened or other problems may occur.

2. CHECK WIRELESS DOOR LOCK CONTROL FUNCTIONS

HINT:

- The switches built into the door control transmitter send radio waves to the door lock control receiver.
- The operational range must be taken into account during checks.

(a) Establish conditions that allow the wireless control function to be operated successfully.

(b) Check these basic functions.

(1) Check that all the doors lock when the LOCK switch is pressed.

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

(3) Check that the luggage compartment door opens when the LUGGAGE OPEN switch is pressed and held 0.8 second.

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(c) Check the automatic lock function.

(1) Check that if all doors are unlocked with the UNLOCK switch and none of the doors is opened or locked within approximately 60 seconds, the doors automatically re-lock.

(2) Check that if all doors are unlocked with the UNLOCK switch and a door is opened or locked within approximately 60 seconds, the automatic lock function does not operate.

(d) Check the interior light ON function.

HINT:

Turn the interior light switch to the DOOR position before the check.

(1) Check that the interior lights come on simultaneously with the unlocking operation when the UNLOCK switch has been pressed.

(2) Check that the interior lights go off in approximately 15 seconds if none of the doors is opened after the unlocking operation.

(e) Check the answer back function.

(1) When the doors are locked by wireless operation, the hazard warning lights flash once and the wireless door lock buzzer sounds once.

(2) When the doors are unlocked by wireless operation, the hazard warning lights flash twice and the wireless door lock buzzer sounds twice.

(3) When the luggage compartment door is opened by wireless operation, the wireless door lock buzzer sounds.

(f) Check the switch operation fail-safe function.

(1) Check that the doors cannot be locked or unlocked by operating a switch on the unregistered transmitter, and that the doors are locked and unlocked by operating a switch on the registered transmitter.

(g) Check the chattering prevention function.

(1) Check that the corresponding operation occurs only once, and does not repeat itself while the switch is held down. Check that the corresponding operation is carried out when the switch is operated repeatedly at 1-second intervals.

(h) Check the door ajar warning function.

(1) Check that the wireless door lock buzzer sounds for approximately 10 seconds when the LOCK switch is pressed with any of the doors ajar or open.

(i) Check the remote panic function.

(1) Check that the horn sounds, the headlights and taillights flash and the interior light remains on (when the light switch is turned to the DOOR position) for 60 seconds by the theft alarm function, when the PANIC switch is held down for 0.8 seconds or more. Also, check that the horn stops sounding and the lights stop flashing when either switch of the transmitter is pressed.



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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001NN002BX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/ Smart Key System): CUSTOMIZE PARAMETERS (2010 Corolla)		

CUSTOMIZE PARAMETERS

HINT:

The following items can be customized.

NOTICE:

- After confirming whether the items requested by the customer are applicable or not for customization, perform customizing operations.
- Be sure to record the current settings before each customization.
- When troubleshooting, make sure that the item in question is not set to "OFF" as a result of customization (Example: If the wireless function does not operate, first check that the wireless function is not set to "OFF", then perform troubleshooting).

1. CUSTOMIZE

(a) Connect the Techstream to the DLC3.

(b) Turn the engine switch on (ACC).

(c) Turn the Techstream on.

(d) Enter the following menu:

Customize Setting

(e) Select the setting by referring to the table below.

Wireless Door Lock Control System

DISPLAY (ITEM)	DEFAULT	FUNCTION	SETTING
Wireless Control	ON	Function that turns wireless door lock function ON/OFF	ON/OFF
Hazard Answer Back	ON	• When the doors are locked by wireless operation, the hazard warning lights flash once. • When the doors are unlocked by wireless operation, the hazard warning lights flash twice.	ON/OFF
Wireless Auto Lock	ON	This function turns the wireless auto lock function on or off.	ON / OFF
Open Door Warning	ON	The buzzer sounds when LOCK is pressed when any of the doors are ajar.	ON/OFF
Unlock 2 Operation	ON	Function that unlocks driver side door when unlock switch on transmitter is pressed once, and unlocks all	ON/OFF

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DISPLAY (ITEM)	DEFAULT	FUNCTION	SETTING
		doors when pressed twice. If setting is OFF, pressing unlock switch once makes all doors unlock.	
Panic Function	ON	Function to operate theft deterrent system by continuously pressing panic switch on transmitter for 0.8 seconds	ON/OFF
Auto Lock Time	60 s	This function regulates the interval between unlocking and automatic relocking of doors.	30 s/60 s/120 s
Wireless Buzzer Resp	ON	Wireless door lock buzzer response / ON or OFF	ON/OFF
Trunk Lid Operation	0.8PR	This function changes operation method of transmitter to open luggage compartment door. • 1TIME: Push once • 2 TIMES: Push twice • 0.8PR: Push and hold for 0.8 seconds • OFF: Does not operate	1TIME/2 TIMES/0.8PR/OFF



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Last Modified: 3-10-2010	6.4 T	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000026DD01IX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/ Smart Key System): PROBLEM SYMPTOMS TABLE (2010 Corolla)		

PROBLEM SYMPTOMS TABLE

If a normal system code is displayed during the DTC check, but the problem still occurs, check the circuits for each problem symptom in the order given in the table below and proceed to the relevant troubleshooting page.

HINT:

- Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, 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

SYMPTOM	SUSPECTED AREA	SEE PAGE
Wireless control function and entry function do not operate	Proceed to "All Door Entry Lock/Unlock Functions and Wireless Functions do not Operate"	INFO
Wireless control function does not operate but entry function operate	Replace electrical key transmitter	-
Luggage compartment door open function only does not operate	Perform operation check	INFO
	Proceed to "Luggage Compartment Door Entry Unlock Function does not Operate when Key is Outside Luggage Compartment"	INFO
Answer-back function only does not operate	Proceed to "No Answer-Back"	INFO
Automatic lock function only does not operate normally	Perform operation check	INFO
	Lighting system (door courtesy light switch circuit)	INFO
	Main body ECU	-
Illuminated entry function only does not operate	Perform operation check	INFO
	Lighting system (illuminated entry function)	INFO
	Main body ECU	-
Door ajar warning function only does not operate	Perform operation check	INFO
	Lighting system (door courtesy light switch circuit)	INFO
	Main body ECU	-

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SYMPTOM	SUSPECTED AREA	SEE PAGE
Panic alarm function only does not operate	Perform operation check	INFO
	Horn system	-
	Main body ECU	-

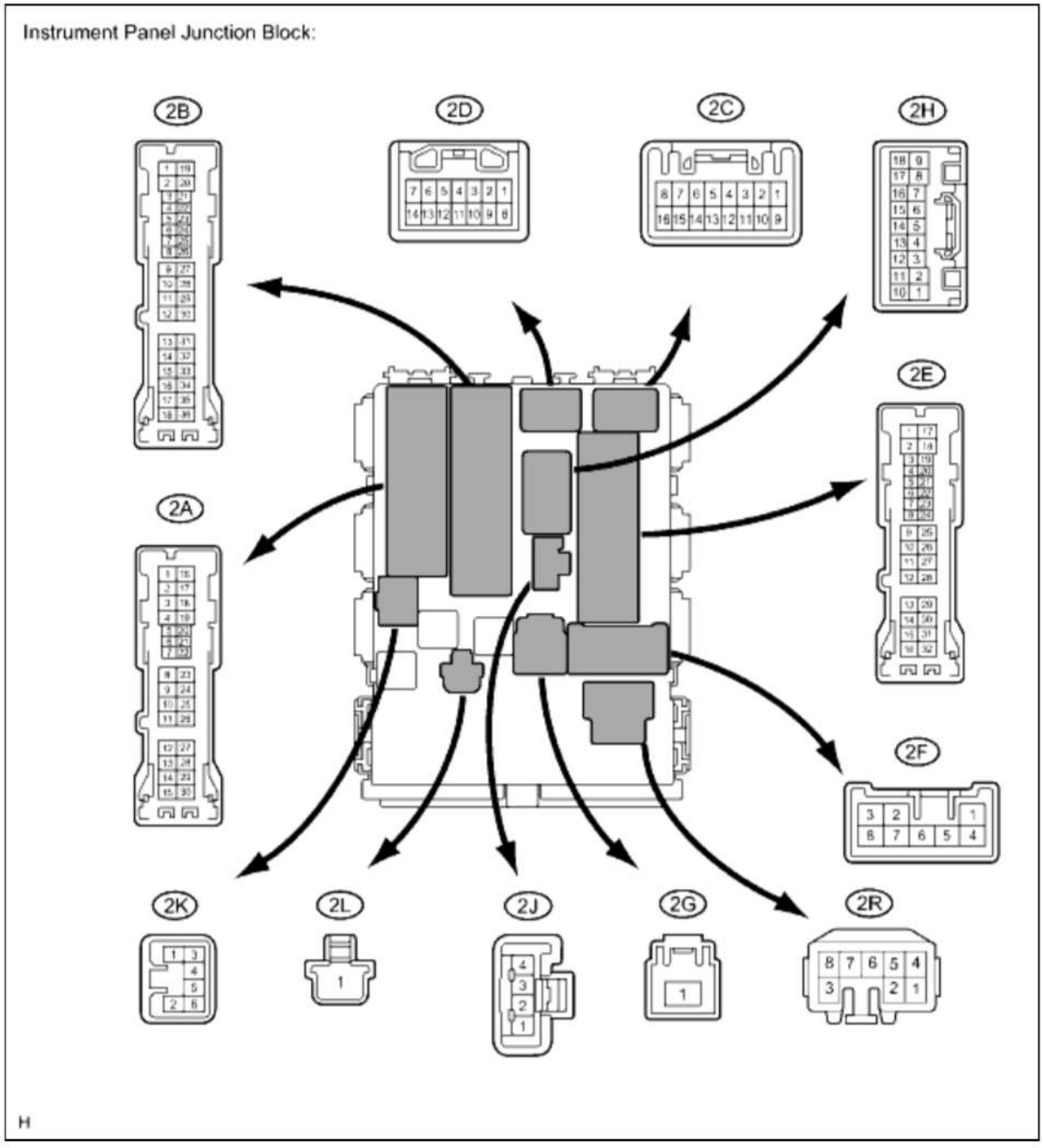
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Last Modified: 3-10-2010	6.4 U	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001QP801NX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/ Smart Key System): TERMINALS OF ECU (2010 Corolla)		

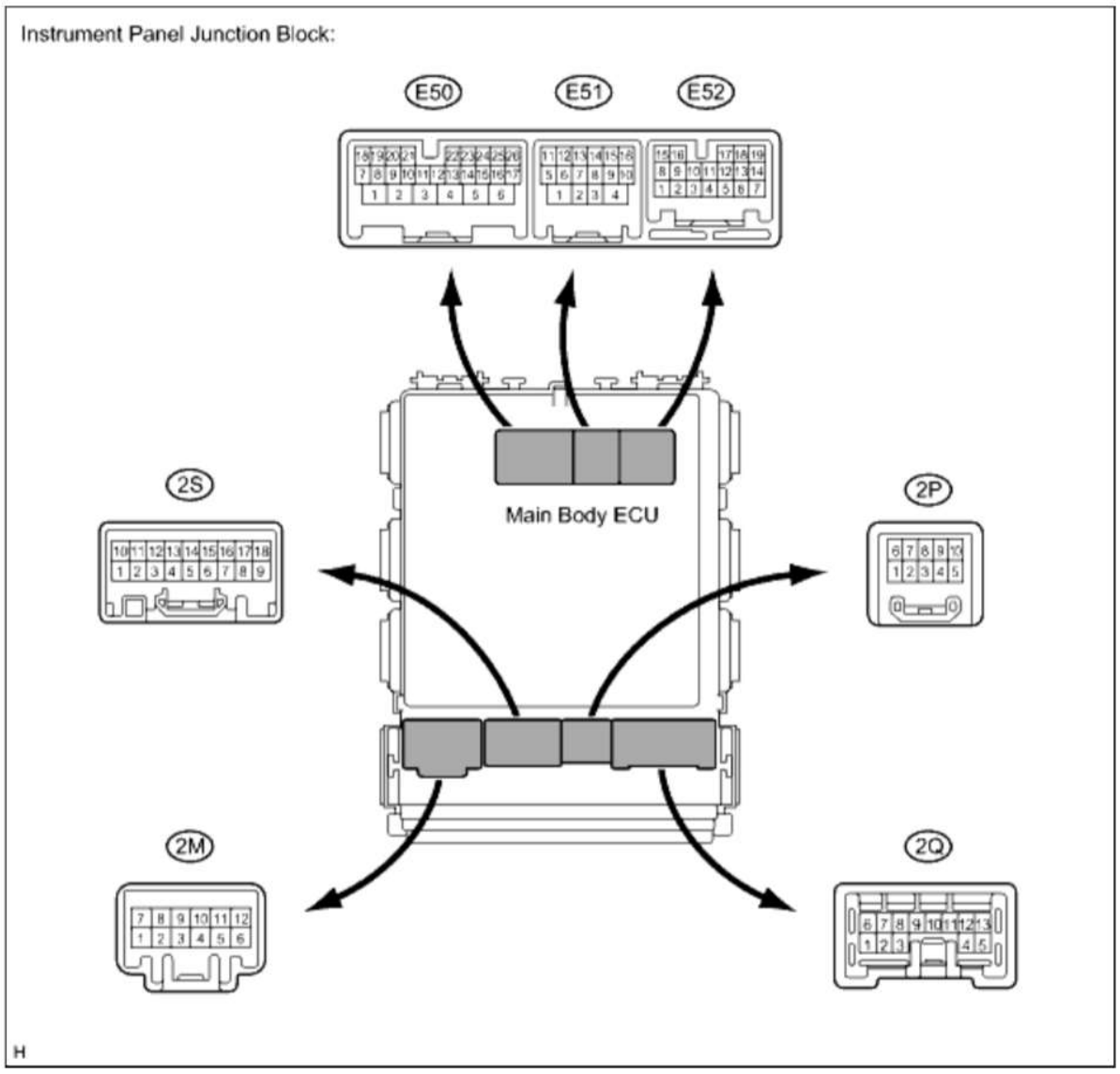
TERMINALS OF ECU

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

(a) Disconnect the 2A, 2B, 2C, 2E, 2F and 2G instrument panel junction block connectors and E50 and E51 main body ECU connectors.



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(b) Measure the resistance and voltage between each terminal of the wire harness side connectors and body ground.

TESTER CONNECTION	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
2A-7 (LGCY) - Body ground	LG - Body ground	Luggage compartment door courtesy light switch input	Luggage compartment door CLOSED (OFF) → OPEN (ON)	10 kΩ or higher → Below 1 Ω
2E-20 (PCTY) - Body ground	BR - Body ground*1 BE - Body ground*2	Passenger side door courtesy light switch input	Passenger side door CLOSED (OFF) → OPEN (ON)	10 kΩ or higher → Below 1 Ω
2B-30 (BECU) - Body ground	W - Body ground	+B power supply	Always	11 to 14 V

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TESTER CONNECTION	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
2C-6 (DCTY) - Body ground	W - Body ground*1 R - Body ground*2	Driver side door courtesy light switch input	Driver side door CLOSED (OFF) → OPEN (ON)	10 kΩ or higher → Below 1 Ω
2E-17 (GND1) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω
2E-19 (RCTY) - Body ground	LG - Body ground*1 Y - Body ground*2	Rear courtesy light switch RH input	Rear door RH CLOSED (OFF) → OPEN (ON)	10 kΩ or higher → Below 1 Ω
2F-5 (ACC) - Body ground	W - Body ground*1 L - Body ground*2	IG supply (ACC signal)	Engine switch on (ACC) → off	11 to 14 V → Below 1 V
2G-1 (IG) - Body ground	W - Body ground	IG supply (IG signal)	Engine switch on (IG) → off	11 to 14 V → Below 1 V
2G-1 (ALTB) - Body ground	W - Body ground	+B (power system alternator system) power supply	Always	11 to 14 V
E50-8 (LCTY) - Body ground	SB - Body ground*1 B - Body ground*2	Rear courtesy light switch LH input	Rear door LH CLOSED (OFF) → OPEN (ON)	10 kΩ or higher → Below 1 Ω
E51-4 (GND2) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω

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

- *1: for TMC Made
- *2: Except for TMC made

(c) Reconnect the main body (instrument panel junction block) connectors.

(d) Measure the voltage between each terminal of the wire harness side connectors and body ground.

TESTER CONNECTION	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
2S-17 (HAZ) - Body ground	GR - Body ground*3 BE - Body ground*4	Turn signal flasher relay signal	Transmitter LOCK or UNLOCK switch is pressed → not pressed	Below 1 V*1 → 11 to 14 V
E50-1 (TR+)- Body ground	R - Body ground*3	Luggage compartment door	Luggage compartment door CLOSED (LOCKED) →	Below 1 V → 11 to 14 V*2

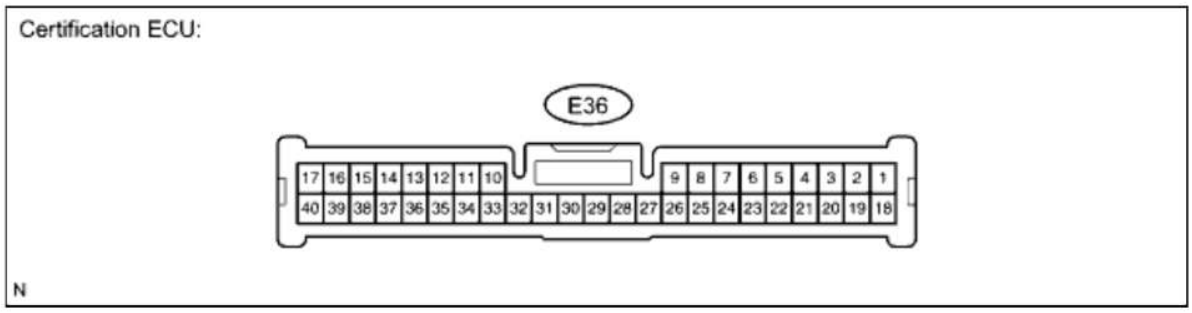
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TESTER CONNECTION	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
	P - Body ground*4	opener motor	OPEN (UNLOCKED)	

- *1: When operating the answer back function.
- *2: When operating the motor.
- *3: for TMC Made
- *4: Except for TMC made

2. CHECK CERTIFICATION ECU ASSEMBLY

(a) Disconnect the E36 ECU connector.



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

TESTER CONNECTION	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
E36-1 (+B) - E36-17 (E)	W - W-B*1 BR - W-B*2	Battery power supply	Always	11 to 14 V
E36-17 (E) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω

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

(c) Reconnect the E36 ECU connector.

(d) Measure the voltage of the connector.

TESTER CONNECTION	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
E36-29 (RC0) - E36-17 (E)	V - W-B*1 LG - W-B*2	Door control receiver power supply	Engine switch off, all doors closed and transmitter switch not pressed	Below 1 V
E36-29 (RC0) - E36-17 (E)	V - W-B*1	Door control receiver power	Engine switch off, all doors closed and transmitter	4.6 to 5.4 V

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TESTER CONNECTION	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
	LG - W-B*2	supply	switch pressed	
E36-38 (RDA) - E36-17 (E)	Y - W-B*1 P - W-B*2	Door control receiver output signal	Engine switch off, all doors closed and transmitter switch not pressed	11 to 14 V
E36-38 (RDA) - E36-17 (E)	Y - W-B*1 P - W-B*2	Door control receiver output signal	Engine switch off, all doors closed and transmitter switch pressed	Pulse generation
E36-18 (IG) - E36-17 (E)	L - W-B*1 B - W-B*2	IG power supply	Engine switch on (IG)	11 to 14 V
E36-18 (IG) - E36-17 (E)	L - W-B*1 B - W-B*2	IG power supply	Engine switch off	Below 1 V

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

- *1: for TMC Made
- *2: Except for TMC made



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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001PQX057X
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/ Smart Key System): DIAGNOSIS SYSTEM (2010 Corolla)		

DIAGNOSIS SYSTEM

1. DESCRIPTION

The ECU stores trouble codes if a vehicle malfunction occurs.

The diagnostic system allows for reading of the trouble codes from the DLC3 using the Techstream.

Use the Techstream to diagnose and solve the problem.

2. CHECK DLC3

(a) Check the DLC3 INFO .

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Last Modified: 3-10-2010	6.4 U	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000027AI026X
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/ Smart Key System): DATA LIST / ACTIVE TEST (2010 Corolla)		

DATA LIST / ACTIVE TEST

1. DATA LIST

HINT:

Using the 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.

NOTICE:

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 (IG).

(c) Enter the following menus: Body / Main Body or Entry & Start / Data List.

(d) Read the Data List according to the display on the Techstream.

Main Body (Main Body ECU)

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Wireless Control	Wireless door lock control function/ON or OFF	ON: Operating OFF: Not operating	-
Hazard Answer Back	Hazard answer-back of wireless/ON or OFF	ON: Operating OFF: Not operating	-
Wireless Buzzer Resp	Wireless door lock buzzer response/ON or OFF	ON: Operating OFF: Not operating	-
Open Door Warning	Open door warning/ON or OFF	ON: Operating OFF: Not operating	-
Unlock 2 Operation	Unlock 2 Operation of wireless unlock/ON or OFF	ON: All doors unlock when UNLOCK switch is pressed twice OFF: All doors unlock when UNLOCK switch is pressed once	-
Trunk Lid Operation	Luggage compartment door open function type / 1 TIME/2 TIMES/0.8PR/OFF	1 TIME: Luggage compartment door opens when LUGGAGE OPEN switch is pressed once 2 TIMES: Luggage compartment door opens when LUGGAGE OPEN switch is pressed twice	-

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TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
		0.8PR: Luggage compartment door opens when LUGGAGE OPEN switch is pressed and held down for 0.8 seconds. OFF: Not operating	
Auto Lock Time	Automatic lock time/120 s, 60 s or 30 s	120 s: 120 seconds 60 s: 60 seconds 30 s: 30 seconds	-

Smart Key (Certification ECU (Smart Key ECU Assembly))

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Panic Alarm Function	Panic function/ON or OFF	ON: Operating OFF: Not operating	-

2. ACTIVE TEST

HINT:

Using the 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 the Techstream to the DLC3.

(b) Turn the engine switch on (IG).

(c) Enter the following menus: Body / Main Body or Entry & Start / Active Test.

(d) Perform the Active Test according to the display on the Techstream.

Main Body (Main Body ECU)

TESTER DISPLAY	TEST PART	CONTROL RANGE	DIAGNOSTIC NOTE
Hazard	Turn signal flasher relay	ON/OFF	Observe headlight and rear combination light for correct operation
Vehicle Horn	Vehicle horns	ON/OFF	-
Illuminated Entry System	Interior light and engine switch light (Interior light switch is in DOOR position and all doors are closed)	ON/OFF	-

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TESTER DISPLAY	TEST PART	CONTROL RANGE	DIAGNOSTIC NOTE
Trunk and Back-Door Open	Back door opener motor	ON/OFF	Observe back door

Smart Key (Certification ECU (Smart Key ECU Assembly))

TESTER DISPLAY	TEST PART	CONTROL RANGE	DIAGNOSTIC NOTE
Wireless Buzzer Operation	Wireless door lock buzzer	ON/OFF	-



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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM00000208K01KX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/ Smart Key System): DTC CHECK / CLEAR (2010 Corolla)		

DTC CHECK / CLEAR

1. DTC CHECK/CLEAR (USING TECHSTREAM)

(a) DTC check

(1) Connect the Techstream to the DLC3.

(2) Turn the engine switch on (IG).

(3) Read DTCs on the Techstream screen.

(b) DTC clear

(1) Connect the Techstream to the DLC3.

(2) Turn the engine switch on (IG).

(3) Clear the DTCs following the prompts on the Techstream screen.

HINT:

The Techstream has a SNAPSHOT function which records the monitored data.

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



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Last Modified: 3-10-2010	6.4 C	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002075O1IX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/ Smart Key System): B1242: Wireless Door Lock Tuner Circuit Malfunction (2010 Corolla)		

DTC	**B1242**	**Wireless Door Lock Tuner Circuit Malfunction**

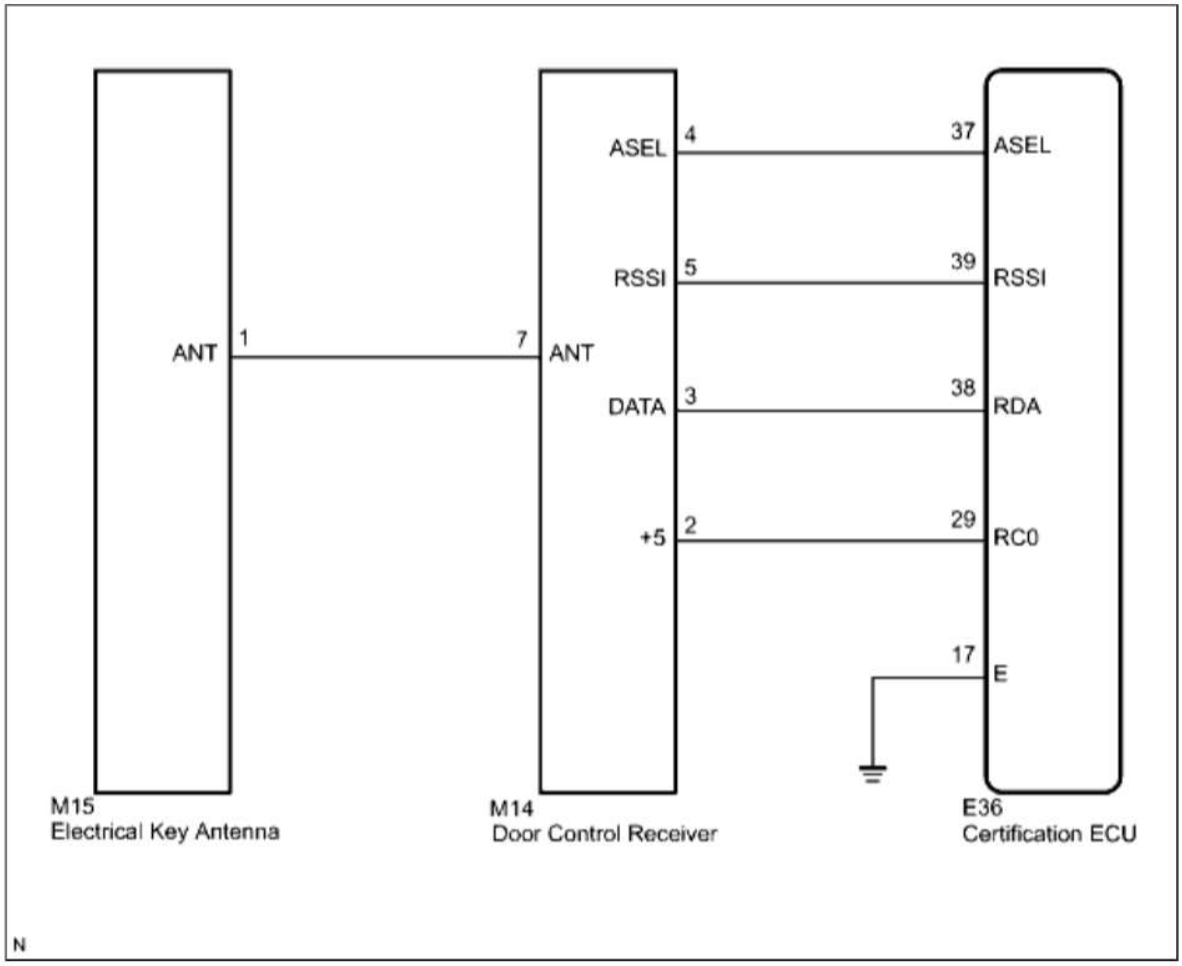
DESCRIPTION

- The electrical key antenna is used to receive electric waves relating to the entry functions of the smart key system with push-button start. The certification ECU decodes the requested smart key system with push-button start operation by identifying a key code based on electric waves received via the electrical key antenna and the door control receiver.
- The door control receiver receives a signal from the wireless door control transmitter and sends signals to the main body ECU through the certification ECU.
- The certification ECU then sends a command, according to the requested operation, to each ECU. (e.g. If door lock operation is requested, the certification ECU sends a door lock command to the main body ECU.)

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B1242	The certification ECU detects that there is a short in the circuit between terminals RSSI, or between terminals DATA and RDA.	• Door Control Receiver • Wire harness or connector • Certification ECU

WIRING DIAGRAM

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INSPECTION PROCEDURE

PROCEDURE

1.	CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU - DOOR CONTROL RECEIVER)

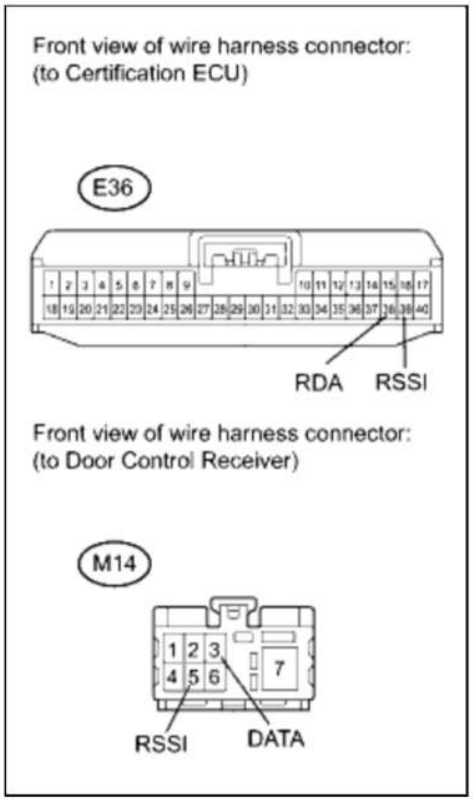
(a) Disconnect the E36 certification ECU connector and M14 door control receiver connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E36-39 (RSSI) - M14-5 (RSSI)	Always	Below 1 Ω

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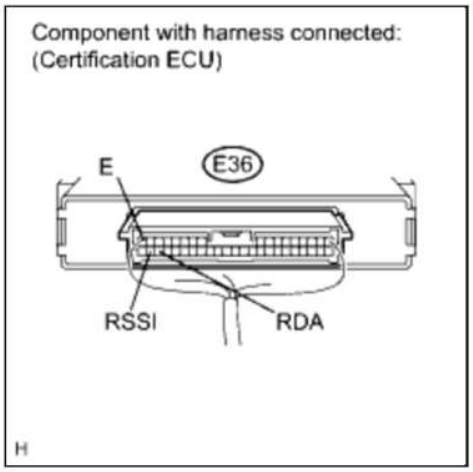


E36-38 (RDA) - M14-3 (DATA)	Always	Below 1 Ω
E36-39 (RSSI) - E36-38 (RDA)	Always	10 kΩ or higher
E36-39 (RSSI) - Body ground	Always	10 kΩ or higher
E36-38 (RDA) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

2.	**CHECK CERTIFICATION ECU**



(a) Reconnect the E36 ECU connector.

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E36-39 (RSSI) - E36-17 (E)	Engine switch off, all doors closed, the electrical key is not in the actuation area	Below 1 V

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TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
	Engine switch off, all doors closed, the electrical key is in the actuation area	4.6 to 5.4 V
E36-38 (RDA) - E36-17 (E)	Engine switch off, all doors closed and transmitter switch not pressed	Below 1 V
	Engine switch off, all doors closed and transmitter switch pressed	4.6 to 5.4 V

NG ▶ **REPLACE CERTIFICATION ECU (SMART KEY ECU)**

OK ▼

3.	**REPLACE DOOR CONTROL RECEIVER**

(a) Replace the door control receiver with a known good one INFO.

NEXT ▼

4.	**CONFIRM DTC**

(a) Clear the DTCs INFO.

(b) Check if the same DTC is detected.

Result:

RESULT	PROCEED TO

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RESULT	PROCEED TO
DTC is not output	A
DTC is output	B

B ▶ **REPLACE CERTIFICATION ECU (SMART KEY ECU)**

A ▶ **END (DOOR CONTROL RECEIVER IS DEFECTIVE)**

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Last Modified: 3-10-2010	6.4 S	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000026DB019X
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/ Smart Key System): DIAGNOSTIC TROUBLE CODE CHART (2010 Corolla)		

DIAGNOSTIC TROUBLE CODE CHART

HINT:

If a trouble code is displayed during the DTC check, inspect the trouble areas listed for that code. For details of the code, refer to "See page" in the DTC chart.

- Inspect the fuses and relays before troubleshooting the areas shown in the table below.

Wireless Door Lock Control System

DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
B1242	Wireless Door Lock Tuner Circuit Malfunction	Door control receiver Wire harness or connector Certification ECU	INFO

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Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000027Q800NX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/ Smart Key System): No Answer-Back (2010 Corolla)		

No Answer-Back

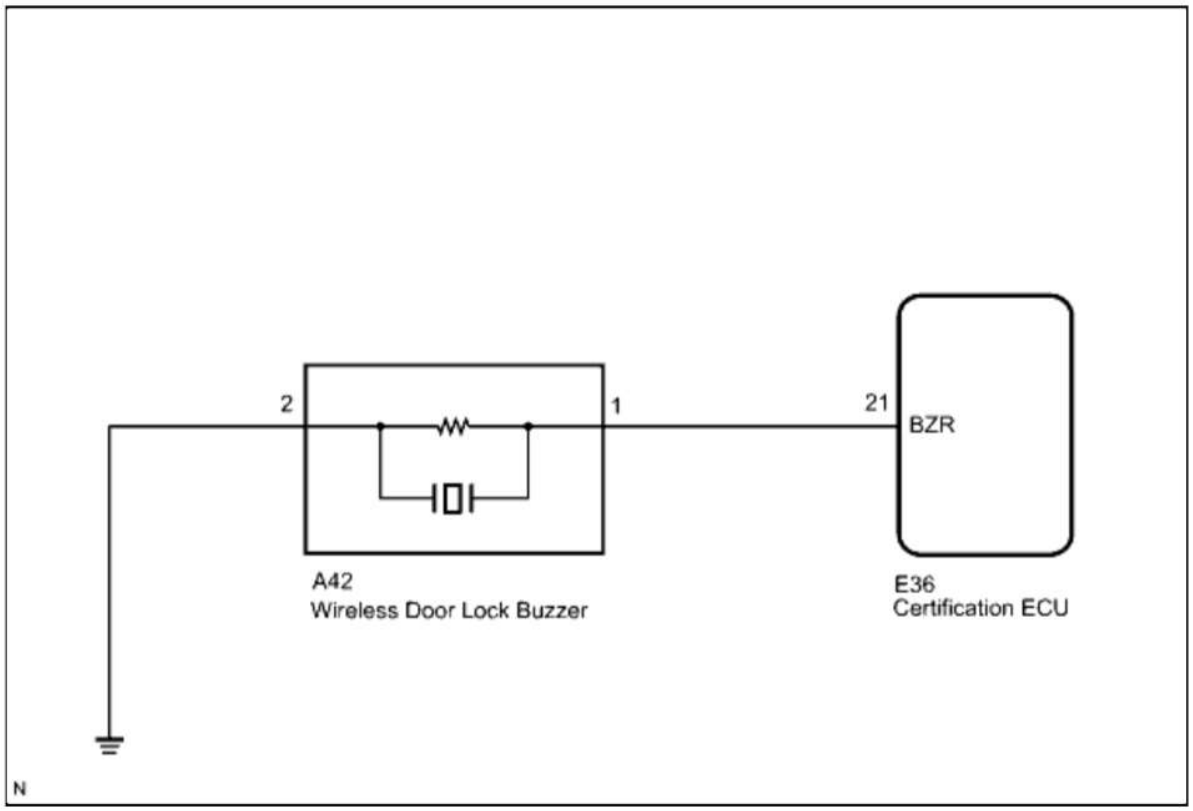
DESCRIPTION

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 certification ECU (smart key ECU assembly) hazard warning light and/or wireless door lock buzzer signal outputs may be malfunctioning.

NOTICE:

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

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

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1.	**CHECK WIRELESS DOOR LOCK CONTROL FUNCTION**

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

Result:

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 using transmitter	C

C ▶ **GO TO FLOWCHART**

B ▶ **PERFORM ACTIVE TEST USING TECHSTREAM (WIRELESS DOOR LOCK BUZZER)**

A ▼

2.	**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**

OK ▼

3.	**REPLACE MAIN BODY ECU**

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(a) Replace the main body ECU with a known good one.

NEXT

4.	**CHECK HAZARD WARNING LIGHTS**

(a) Check that the hazard warning lights flash continuously when the door control transmitter LOCK or UNLOCK switch is pressed.

OK:

Hazard warning lights flash continuously.

NG ▶ **REPLACE CERTIFICATION ECU (SMART KEY ECU)**

OK ▶ **END (MAIN BODY ECU IS DEFECTIVE)**

5.	**PERFORM ACTIVE TEST USING TECHSTREAM (WIRELESS DOOR LOCK BUZZER)**

(a) Enter Active Test, using the Techstream to generate a control command, and then check that the wireless buzzer operates normally.

Main Body

TESTER DISPLAY	TEST PART	CONTROL RANGE	DIAGNOSTIC NOTE
Wireless Buzzer	Wireless Door Lock Buzzer	ON/OFF	-

OK:

Wireless buzzer turns ON/OFF.

NG ▶ **INSPECT WIRELESS DOOR LOCK BUZZER**

OK ▶ **REPLACE CERTIFICATION ECU (SMART KEY ECU)**

6.	**INSPECT WIRELESS DOOR LOCK BUZZER**

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

Standard Resistance:

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Component without harness connected:
(Wireless Door Lock Buzzer)



TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 - 2	Always	950 to 1050 Ω

NOTICE:

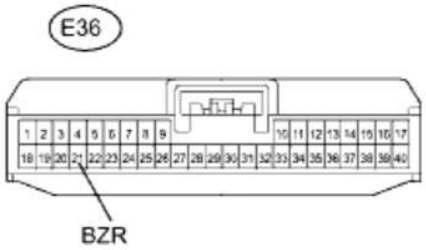
When battery voltage is directly applied to the buzzer, the buzzer does not sound.

NG ▶ **REPLACE WIRELESS DOOR LOCK BUZZER**

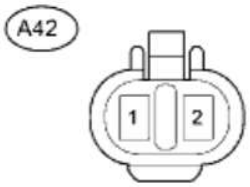
OK ▼

7.	CHECK WIRE HARNESS (WIRELESS DOOR LOCK BUZZER - CERTIFICATION ECU AND BODY GROUND)

Front view of wire harness connector:
(to Certification ECU)



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



(a) Disconnect the E36 certification ECU connector and A42 wireless door lock buzzer connector.

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

Standard Resistance:

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TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E36-21 (BZR) - A42-1	Always	Below 1 Ω
E36-21 (BZR) - Body ground	Always	10 kΩ or higher
A42-2 - Body ground	Always	Below 1 Ω

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **REPLACE CERTIFICATION ECU (SMART KEY ECU)**

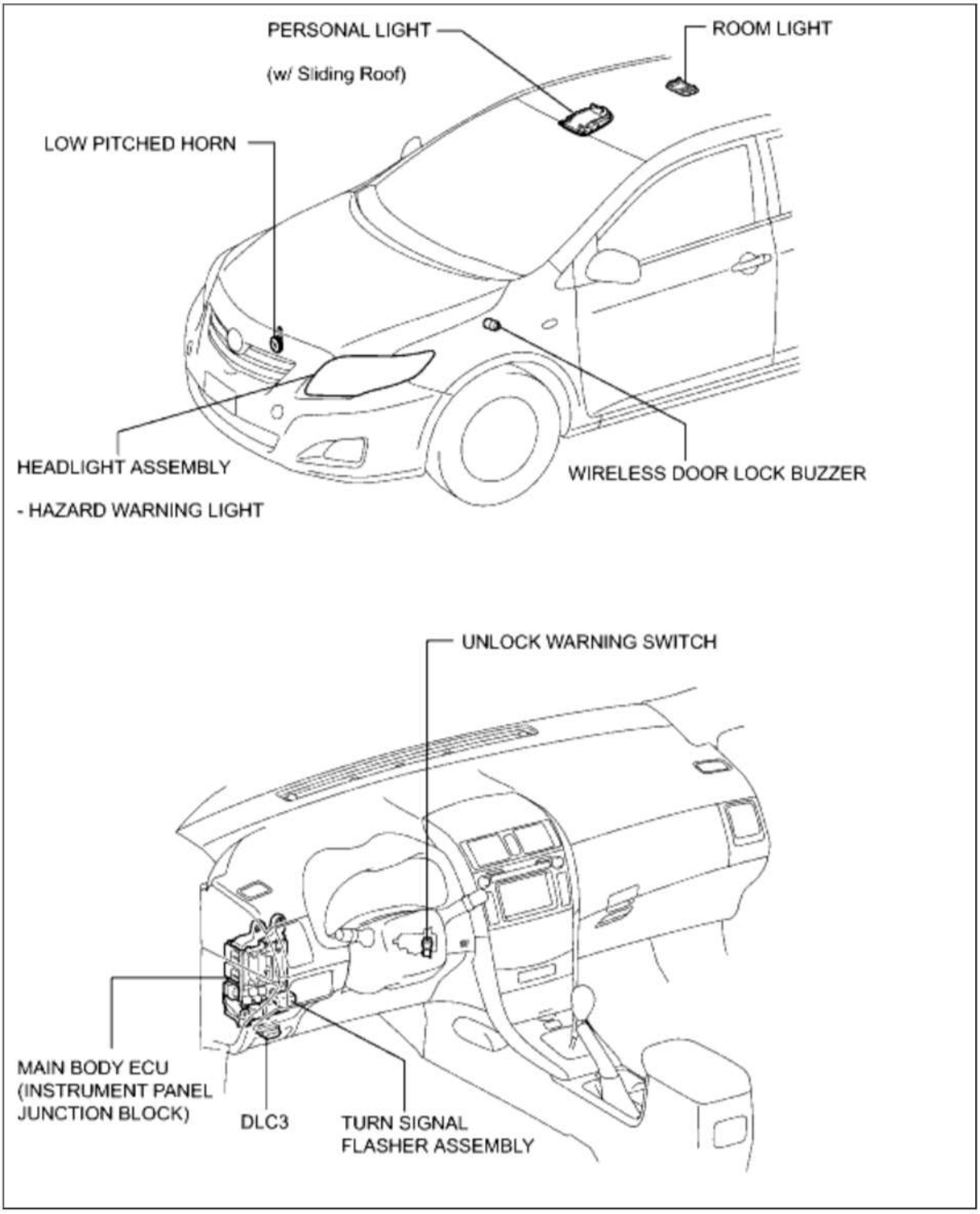
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Last Modified: 3-10-2010	6.4 R	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000024CQ00ZX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/o Smart Key System): PARTS LOCATION (2010 Corolla)		

PARTS LOCATION

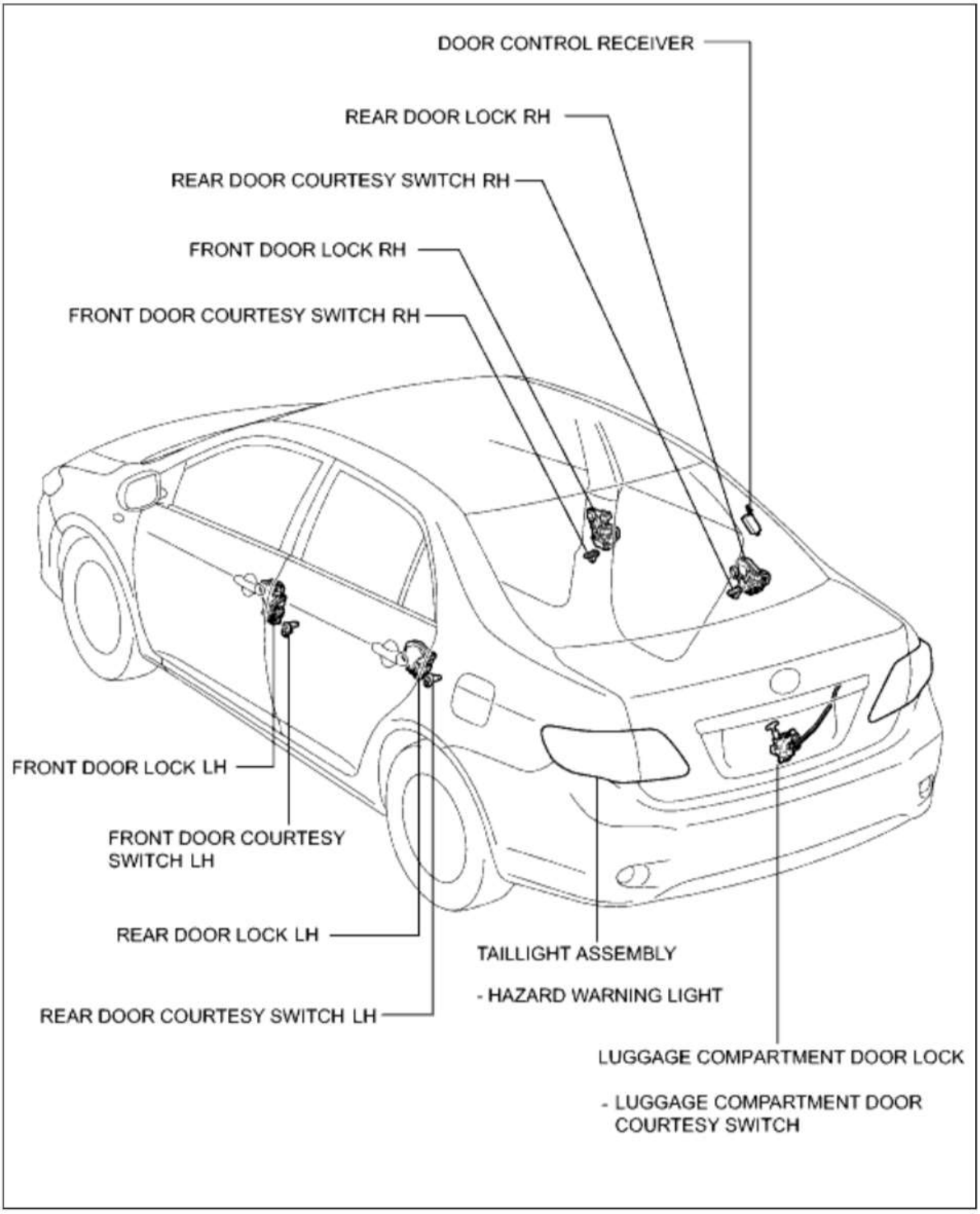
ILLUSTRATION

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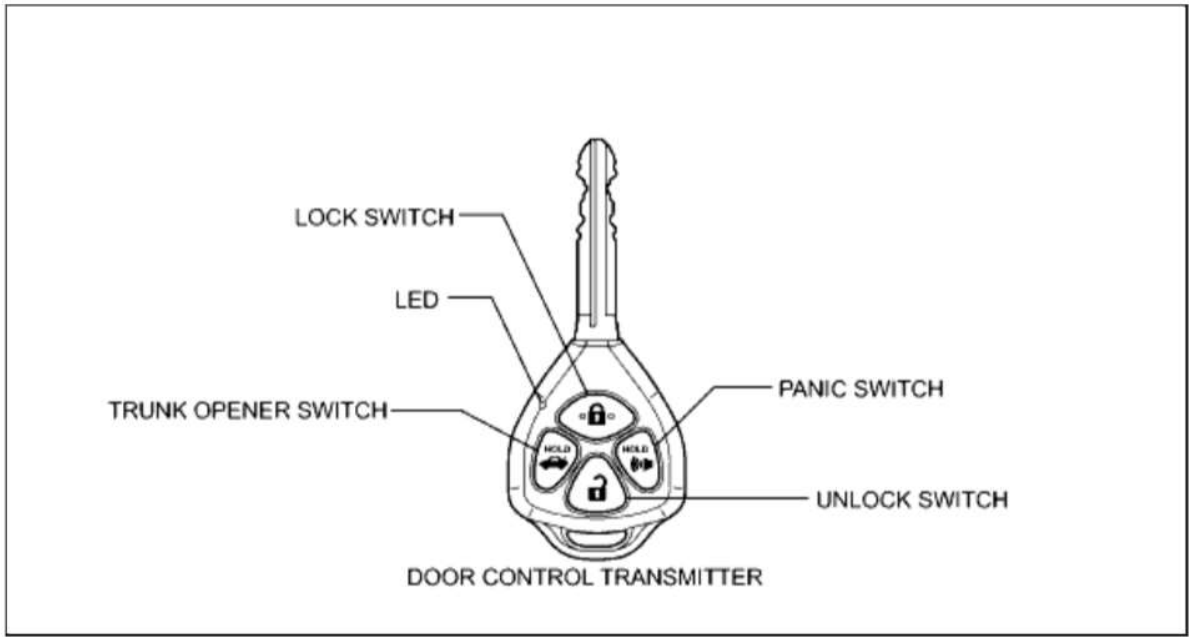
ILLUSTRATION

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ILLUSTRATION

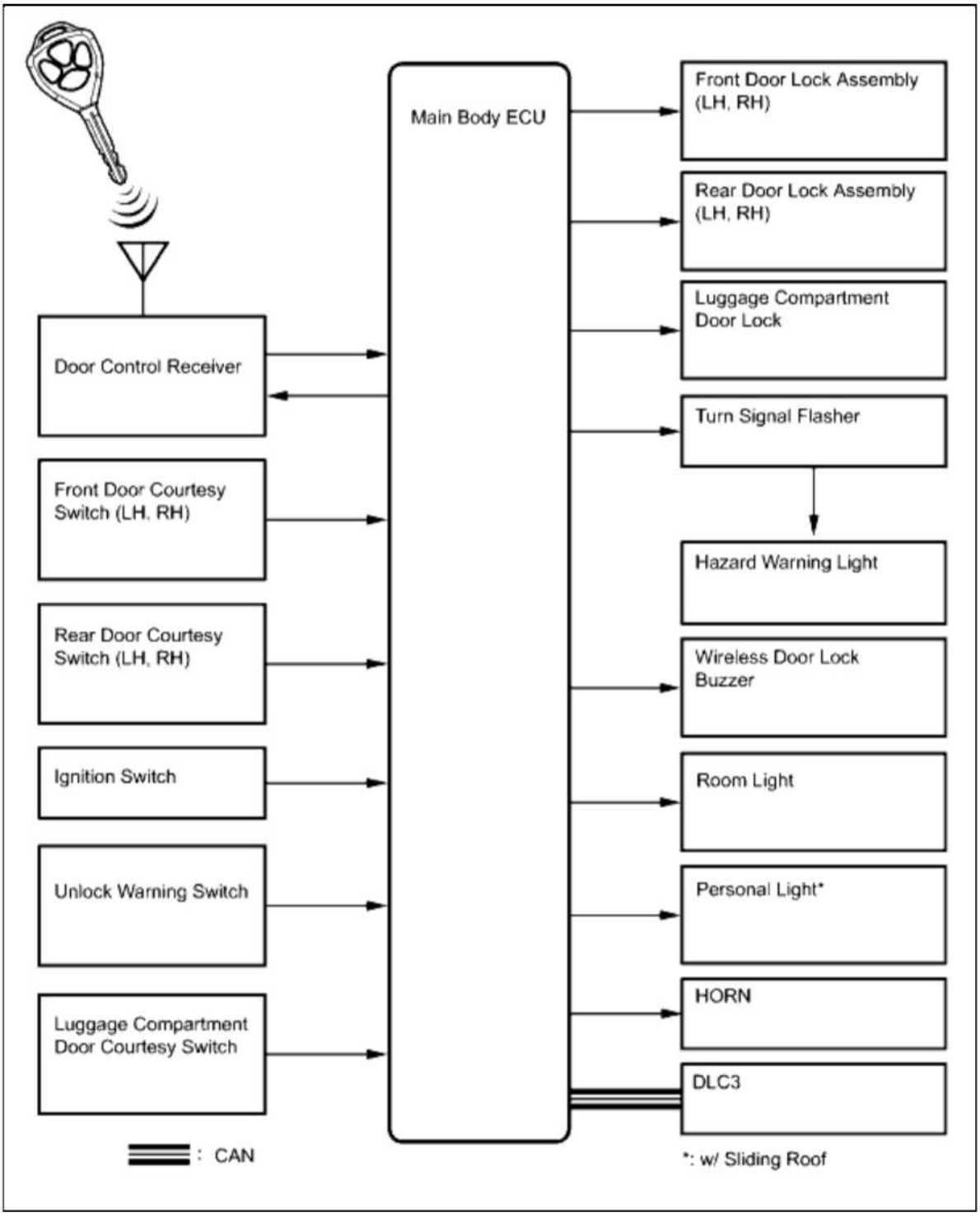
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Last Modified: 3-10-2010	6.4 U	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001OBR014X
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/o Smart Key System): SYSTEM DIAGRAM (2010 Corolla)		

SYSTEM DIAGRAM



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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000012LZ01FX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/o Smart Key System): SYSTEM DESCRIPTION (2010 Corolla)		

SYSTEM DESCRIPTION

1. WIRELESS DOOR LOCK CONTROL SYSTEM

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.

2. FUNCTION OF MAIN COMPONENTS

COMPONENT	FUNCTION
Door control transmitter	• Has LOCK, UNLOCK, LUGGAGE OPEN and PANIC switches. • Transmits weak radio waves (recognition codes and function codes) to the door control receiver. • Illuminates the indicator light (LED) during transmission.
Door control receiver	Receives weak radio waves (recognition codes and function codes) and outputs them as code data to the main body ECU.
• Front door courtesy light switch • Rear door courtesy light switch • Luggage compartment door courtesy light switch	Turns on when a door is opened and turns off when it is closed. Outputs door status codes (open or closed) to the main body ECU.
Unlock warning switch	Detects if the key is inserted in the ignition key cylinder or not.
Door lock position switch	Transmits the door lock positions of each door to the 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

The door control transmitter has the LOCK, UNLOCK, LUGGAGE OPEN and PANIC switches. Operating these switches activates each function.

The wireless door lock control system has the following functions:

HINT:

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The default settings of the following functions are ON. Some of these functions can be customized INFO **.**

FUNCTION	OPERATION
All door lock	Pressing the LOCK switch locks all doors.
All door unlock (Unlock 2 operation)	Pressing the UNLOCK switch twice within 3 seconds unlocks all the doors after the driver's door is unlocked.
Automatic lock	If none of the doors is opened within 60 seconds after they are unlocked by the wireless door lock control, all the doors will lock again automatically.
Luggage compartment door open	Pressing the LUGGAGE OPEN switch of the transmitter opens the luggage compartment door.
Answer back	• When the doors are locked by wireless operation, the hazard warning lights flash once, and wireless door lock buzzer sounds once. • When the doors are unlocked by wireless operation, the hazard warning lights flash twice and wireless door lock buzzer sounds twice. • When the luggage compartment door is opened by wireless operation, the wireless door lock buzzer sounds.
Panic alarm	Pressing the PANIC switch of the transmitter for longer than about 0.8 seconds causes the following alarms to activate: • Sounds the horn. • Flashes the hazard lights. • Illuminates the front interior lights (when the switch is in the DOOR position). While the panic alarm is operating, pressing any switch of the transmitter cancels the alarm operation.
Door ajar warning	The buzzer sounds when the LOCK switch is pressed when any of the doors are ajar, and it sounds for 10 seconds continuously. The buzzer stops when all doors are closed or the UNLOCK switch is pressed.
Illuminated entry	When all the doors are locked, pressing UNLOCK switch causes the interior lights to come on simultaneously with the unlock operation.
Self-diagnostic mode	The following are conditions to enter the self-diagnostic mode: • If the door control receiver receives normal radio waves from the door control transmitter when the system is in diagnostic mode, it flashes the interior lights and sounds the wireless door lock buzzer in a normal pattern that corresponds to the function of each switch. • Read DTCs using the Techstream.
Transmitter recognition code registration	Enables the registration (writing and storing) of 6 types of transmitter recognition codes in the EEPROM that is contained in the door control receiver.

4. TRANSMITTER RECOGNITION CODE REGISTRATION FUNCTION

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The table below shows the 4 ID registration function modes by which up to 6 different codes can be registered. The codes are electronically registered (written and stored) in the EEPROM that is contained in the door control receiver.

MODE	FUNCTION
Add mode	Adds a newly received code while preserving any previously registered codes. This mode is used when adding a new transmitter. If the number of registered codes exceeds 6, the oldest registered code is erased first.
Rewrite mode	Erases all previously registered codes and registers only newly input codes.
Confirmation mode	Confirms how many codes are currently registered. When adding a new code, this mode is used to check how many codes already exist.
Prohibition mode	Deletes all the registered codes and disables the wireless door lock function. This mode is used when the transmitter is lost.

5. CONDITIONS THAT WIRELESS FUNCTIONS DO NOT OPERATE

(a) Lock function will not operate when:

- Any of the doors is open.
- The key is inserted in the ignition key cylinder.

(b) Unlock function will not operate when:

- The key is inserted in the ignition key cylinder.

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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000010J306KX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/o Smart Key System): HOW TO PROCEED WITH TROUBLESHOOTING (2010 Corolla)		

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

The wireless door lock control system troubleshooting procedure is based on the premise that the power door lock control system is operating normally. Check the power door lock control system first before troubleshooting the wireless door lock control system INFO **.**

Use this procedure to troubleshoot the wireless door lock control system.

1.	**VEHICLE BROUGHT TO WORKSHOP**

NEXT

2.	**CUSTOMER PROBLEM ANALYSIS**

(a) Interview the customer to confirm the problem INFO .

NEXT

3.	**DTC CHECK**

(a) Check for DTCs and note any codes that are output.

(b) Clear the DTCs.

(c) Recheck for DTCs.

Result:

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RESULT	PROCEED TO
DTC does not recur	A
DTC recurs	B

B ▶ INFO **Go to DTC CHART**

A
▼

4.	SYMPTOM SIMULATION

NEXT
▼

5.	PROBLEM SYMPTOMS TABLE

(a) If the fault is not listed in the problem symptoms table, proceed to A.

(b) If the fault is listed in the problem symptoms table, proceed to B.

B ▶ **Go to step 8**

A
▼

6.	PERFORM TROUBLESHOOTING ACCORDING TO MALFUNCTION SYMPTOM

(a) Terminals of ECU INFO

(b) Data List/Active Test INFO

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NEXT

7.	ADJUST, REPAIR OR REPLACE

NEXT

8.	CONFIRMATION TEST

NEXT END

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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001NMX019X
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/o Smart Key System): OPERATION CHECK (2010 Corolla)		

OPERATION CHECK

1. FUNCTIONS AND OPERATING CONDITIONS

(a) This wireless door lock control function operates only when the following 4 conditions are met:

(1) There is no key in the ignition key cylinder.

(2) All the doors are closed.

(3) The power door lock system is functioning normally.

(4) The function is not disabled by customization.

HINT:

The UNLOCK function operates even when any of the doors are open.

(b) The wireless transmitter operational range differs depending on the situation.

(1) The operational range differs depending on the user, the way the transmitter is held and the location.

(2) In certain areas, the operational range will be reduced due to the vehicle body shape and the influence of the surrounding environment.

(3) Since the transmitter uses weak radio waves, the operational range may be reduced or the transmitter may not function if interference or stronger radio waves occur in the area where the transmitter is used.

(4) When the battery is low, the operational range is reduced and/or the transmitter may not function.

HINT:

If the transmitter has been left in a place that is exposed to direct sunlight, such as on the instrument panel, the battery may be weakened or other problems may occur.

2. CHECK WIRELESS DOOR LOCK CONTROL FUNCTIONS

HINT:

- The switches built into the door control transmitter send radio waves to the door lock control receiver.
- The operational range must be taken into account during checks.

(a) Establish conditions that allow the wireless control function to be operated successfully.

(b) Check the following basic functions.

(1) Check that the transmitter LED lights up 3 times when each switch is pressed 3 times and that the LED blinks when each switch is pressed and held down.

HINT:

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

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(2) Check that all the doors lock when the LOCK switch is pressed.

(3) Check that the driver side door unlock when the UNLOCK switch is pressed once, and unlocks all doors when pressed twice within 3 seconds.

(4) Check that the luggage compartment door opens when the LUGGAGE OPEN switch is pressed and held 0.6 second.

(c) Check the automatic lock function.

(1) Check that if the all doors are unlocked with the UNLOCK switch and none of the doors is opened or locked within approximately 60 seconds, the doors automatically re-lock.

(2) Check that if the all doors are unlocked with the UNLOCK switch and a door is opened or locked within approximately 60 seconds, the automatic lock function does not operate.

(d) Check the interior light ON function.

HINT:

Turn the interior light switch to the DOOR position before the check.

(1) Check that the interior lights come on simultaneously with the unlocking operation when the UNLOCK switch is pressed.

(2) Check that the interior lights go off in approximately 15 seconds if none of the doors is opened after the unlocking operation.

(e) Check the answer back function.

(1) When the doors are locked by wireless operation, the hazard warning lights flash once and the wireless door lock buzzer sounds once.

(2) When the doors are unlocked by wireless operation, the hazard warning lights flash twice and the wireless door lock buzzer sounds twice.

(3) When the luggage compartment door is opened by wireless operation, the wireless door lock buzzer sounds.

(f) Check the switch operation fail-safe function.

(1) Check that the doors cannot be locked by operating a switch while the key is in the ignition key cylinder.

HINT:

This check cannot be made when the system is in recognition code registration mode.

(g) Check the chattering prevention function.

(1) Check that the corresponding operation occurs only once, and does not repeat itself while the switch is held down pressed. Check that the corresponding operation is carried out when the switch is operated repeatedly at 1-second intervals.

(h) Check the door ajar warning function.

(1) Check that the wireless door lock buzzer sounds for approximately 10 seconds when the LOCK switch is pressed with any of the doors ajar or open.

(i) Check the remote panic function.

(1) Check that the horn sounds, the headlights and taillights flash and the interior light remains on (when the light switch is turned to the DOOR position) for 60 seconds by the theft alarm function, when the PANIC switch is held down for 0.8 seconds or more. Also, check that the horn stops sounding and the lights stop flashing when either switch of the transmitter is pressed.

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Last Modified: 3-10-2010	6.4 M	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000023D301HX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/o Smart Key System): REGISTRATION (2010 Corolla)		

REGISTRATION

HINT:

- Register a new recognition code when replacing the door control transmitter or the door control receiver.
- Add mode is used to retain the already registered codes while registering a new recognition code. This mode is used when adding a transmitter. If the number of registered codes exceeds 6, the previously registered code will be correspondingly erased in order, starting from the code registered first.
- Rewrite mode is used to erase all the previously registered codes and register only new recognition codes. This mode is used when exchanging the transmitter or the door control receiver for new one.
- Confirmation mode is used to confirm how many recognition codes have already been registered before an additional registration of a recognition code.
- Prohibition mode is used to erase all the registered codes and cancel the wireless door lock function. Use this mode when the transmitter is lost.
- All of the steps in the following registration procedure must be performed in sequential order continuously.

1. REGISTRATION OF RECOGNITION CODE (MANUAL OPERATION)

(a) The following conditions should be met.

(1) No key is inserted in the ignition key cylinder.

(2) Only driver side door is opened.

(b) Perform the following operations to select the desired mode.

(1) Insert and remove the key from the ignition switch twice within 5 seconds. (End in removed)

(2) After the above operation, close and open the driver's door twice. (End in open)

Then insert the key into the ignition key cylinder and remove it.

HINT:

Complete this procedure within 40 seconds.

(3) After the above operations, close and open the driver side door twice. (End in open)

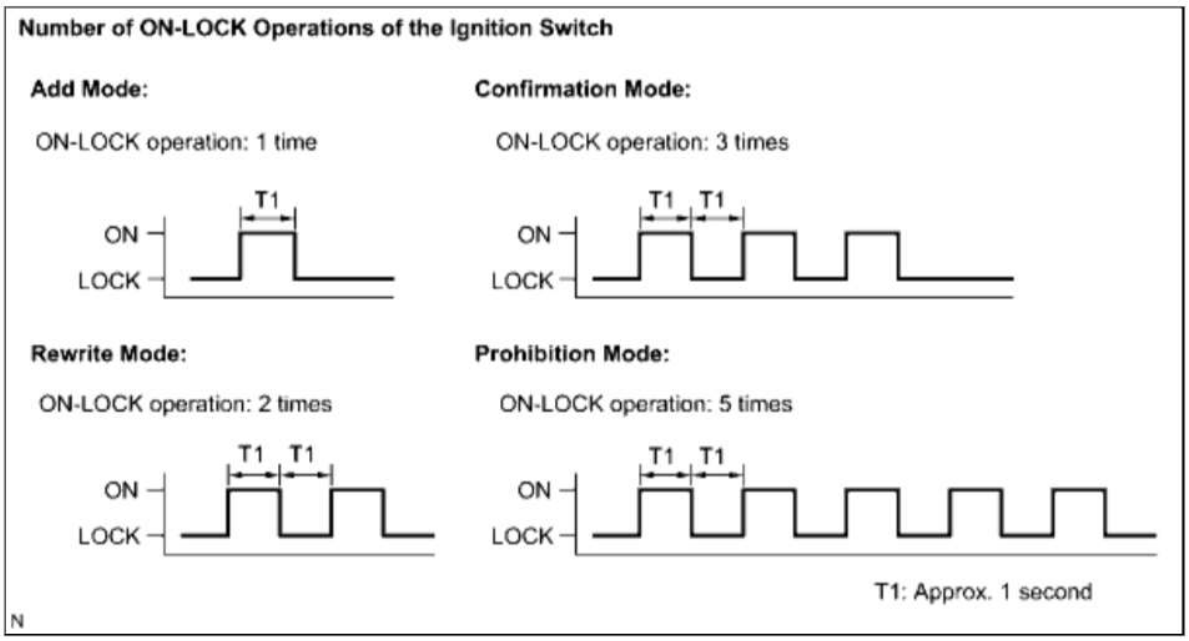
Then insert the key into the ignition key cylinder and close the door.

HINT:

Complete this procedure within 40 seconds.

(4) Turn the ignition switch from LOCK to ON and back to LOCK at approximately 1 second intervals 1 to 5 times to select a mode (see the illustration). Then remove the key from the ignition key cylinder.

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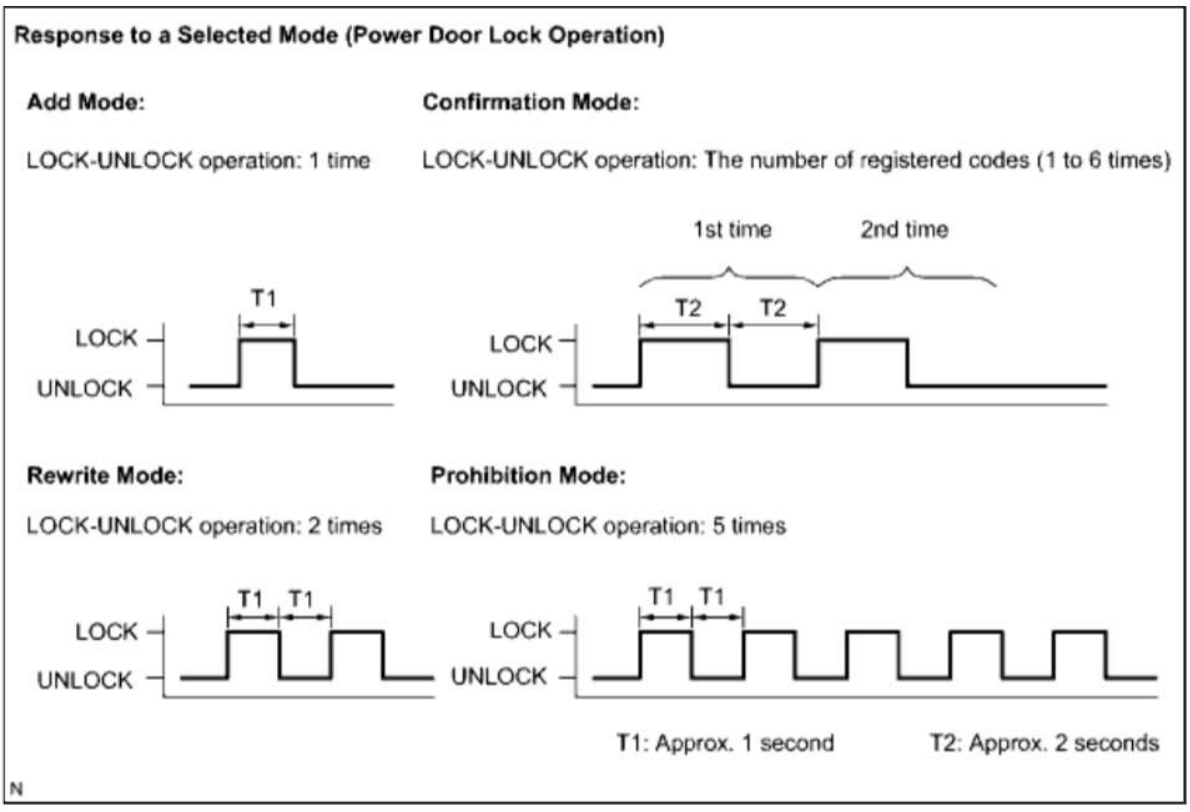
HINT:

Complete this procedure within 40 seconds.

NOTICE:

If the number of the ON-LOCK operations of the ignition switch is 0, 4, 6 or more, there will be no response to inform which mode has been selected.

(5) After selecting a mode, the main body ECU automatically performs the power door LOCK-UNLOCK operation within 5 seconds to inform the selected mode (see the illustration).



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HINT:

- In confirmation mode, the LOCK- UNLOCK operation will occur once for each recognition code that has been registered. For example, if 2 recognition codes have been registered, the LOCK-UNLOCK operation will occur 2 times.
- In confirmation mode and prohibition mode, once a LOCK-UNLOCK operation response has occurred, the registration procedure will end.

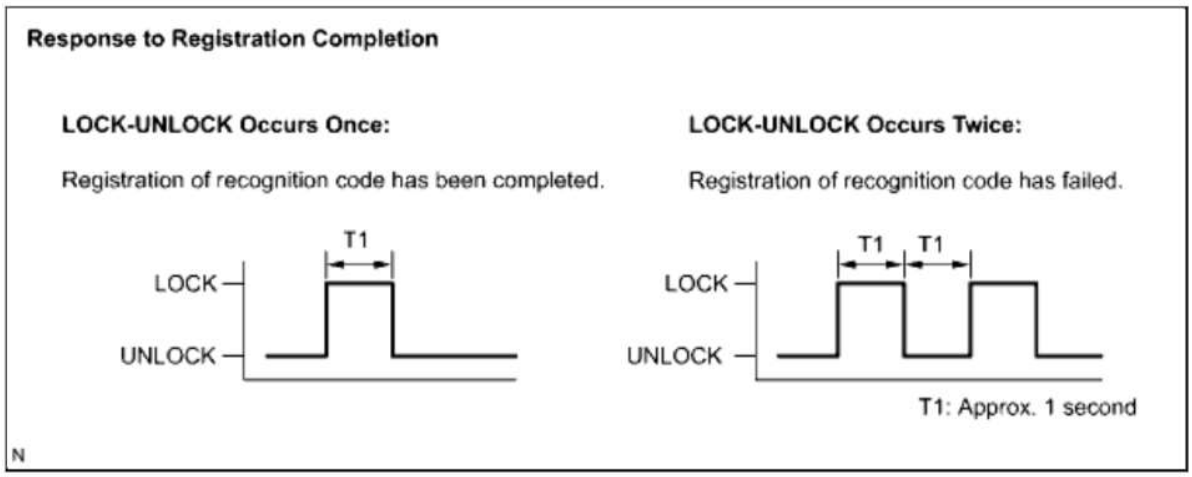
(c) Register new recognition codes (Add mode or Rewrite mode):

(1) Within 45 seconds after add mode or rewrite mode has been selected, press the LOCK and UNLOCK switches on the transmitter switch simultaneously for 1.0 to 1.5 seconds.

Then, press either one of the switches for more than 1.0 second (Procedure "A").

(2) Within 5 seconds after the transmitter switch has been released, the LOCK-UNLOCK operation will be automatically performed once if the registration of the recognition code of the transmitter is completed correctly.

If the LOCK-UNLOCK operation is performed twice, registration of the recognition code has failed. Perform the registration procedure from the beginning (Procedure "B").



(3) If multiple transmitters need to be registered, repeat procedures "A" and "B" within 45 seconds each.

HINT:

- Up to 6 recognition codes can be registered at once.
- If even one of the following conditions is satisfied, registration mode will end.
  - 40 seconds have elapsed after a recognition code has been registered.
  - Any of the doors are opened.
  - The key is inserted into the ignition key cylinder.
  - 6 recognition codes are registered.

2. REGISTRATION OF RECOGNITION CODE (USING TECHSTREAM)

(a) Turn the ignition switch to ON.

(b) Select either add or rewrite mode according to the Techstream display.

(c) The number of registered codes is indicated.

(d) Registration of the door control transmitter.

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(1) If either add mode or rewrite mode has been selected, press the LOCK and UNLOCK switches on the transmitter simultaneously.

(2) Within 3 seconds of releasing the LOCK and UNLOCK switches, press either of the switches on the door control transmitter.

NOTICE:

- Do not press the LOCK and UNLOCK switches simultaneously for more than 1.5 seconds.
- Perform this operation within 1 meter of the driver's seat to register the transmitter.
- Do not push other transmitter switches during the transmitter registration process.

(3) The main body ECU automatically performs the power door LOCK-UNLOCK operation once in order to indicate whether registration has been completed correctly or not.

(4) If continuing registration, the next recognition code must be registered in the door control transmitter within 30 seconds.

HINT:

Up to 6 recognition codes can be registered.

(e) Completing the registration mode.

(1) Registration mode will end when any of the following occurs:

- 30 seconds or more have elapsed after a code is registered.
- The Techstream is used to finish registration.
- The Techstream is disconnected.
- The ignition switch is turned off.

(f) Perform the following after registration is completed.

(1) Perform the wireless door lock control operation check 

.

HINT:

If the wireless door lock control does not operate, perform the registration procedure again.



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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001NN002CX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/o Smart Key System): CUSTOMIZE PARAMETERS (2010 Corolla)		

CUSTOMIZE PARAMETERS

HINT:

The following items can be customized.

NOTICE:

- After confirming whether the items requested by the customer are applicable or not for customization, perform customizing operations.
- Be sure to record the current settings before customization.
- When troubleshooting, make sure that the item in question is not set to "OFF" as a result of customization (Example: If the wireless function does not operate, first check that the wireless function is not set to "OFF", then perform troubleshooting).

1. CUSTOMIZE

(a) Connect the Techstream to the DLC3.

(b) Turn the ignition switch to ON.

(c) Turn the Techstream on.

(d) Enter the following menu:

Customize Setting

(e) Select the setting by referring to the table below.

Wireless Door Lock Control System

DISPLAY (ITEM)	DEFAULT	FUNCTION	SETTING
Wireless Control	ON	Function that turns wireless door lock function ON/OFF	ON/OFF
Hazard Answer Back	ON	• When the doors are locked by wireless operation, the hazard warning lights flash once. • When the doors are unlocked by wireless operation, the hazard warning lights flash twice.	ON/OFF
Wireless Auto Lock	ON	This function turns the wireless auto lock function on or off.	ON / OFF
Wireless Buzzer Resp	ON	Wireless door lock buzzer response / ON or OFF	ON/OFF
Open Door Warning	ON	The buzzer sounds when LOCK is pressed when any of the doors are ajar.	ON/OFF

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DISPLAY (ITEM)	DEFAULT	FUNCTION	SETTING
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	Function to operate theft deterrent system by continuously pressing panic switch on transmitter for 0.8 seconds	ON/OFF
Trunk Lid Operation	Long1	This function changes operation method of transmitter to open luggage compartment door. • 1tim ON: Push once • 2tim ON: Push twice • Long1: Push and hold for 0.6 seconds • Long2: Push and hold for 1.6 seconds • Prohibit: Does not operate	1tim ON/2tim ON/Long1 /Long2/Prohibit
Auto Lock Time	60 s	This function regulates the interval between unlocking and automatic relocking of doors.	30 s/60 s/120 s



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Last Modified: 3-10-2010	6.4 T	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000024CR01EX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/o Smart Key System): PROBLEM SYMPTOMS TABLE (2010 Corolla)		

PROBLEM SYMPTOMS TABLE

If a normal system code is displayed during the DTC check, but the problem still occurs, check the circuits for each problem symptom in the order given in the table below and proceed to the relevant troubleshooting page.

HINT:

- Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, 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

SYMPTOM	SUSPECTED AREA	SEE PAGE
Only wireless control function is inoperative	Proceed to "Only wireless control function is inoperative"	INFO
Answer-back function only does not operate normally.	Proceed to "No answer-back"	INFO
Automatic lock function only does not operate normally.	Perform the operation check	INFO
	Key reminder warning system (unlock warning switch circuit)	INFO
	Lighting system (door courtesy light switch circuit)	INFO
	Main body ECU	-
Luggage compartment door open function only does not operate	Perform operation check	INFO
	Luggage compartment door lock assembly	INFO
	Main body ECU	-
	Wireharness or connector	-
Illuminated entry function only does not operate.	Perform the operation check	INFO
	Lighting system (illuminated entry function)	INFO
	Main body ECU	-
Door ajar warning function only does not	Perform the operation check	INFO

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SYMPTOM	SUSPECTED AREA	SEE PAGE
operate	Lighting system (door courtesy light switch circuit)	INFO
	Main body ECU	-
Panic alarm function only does not operate	Perform operation check	INFO
	Horn system	-
	Main body ECU	-

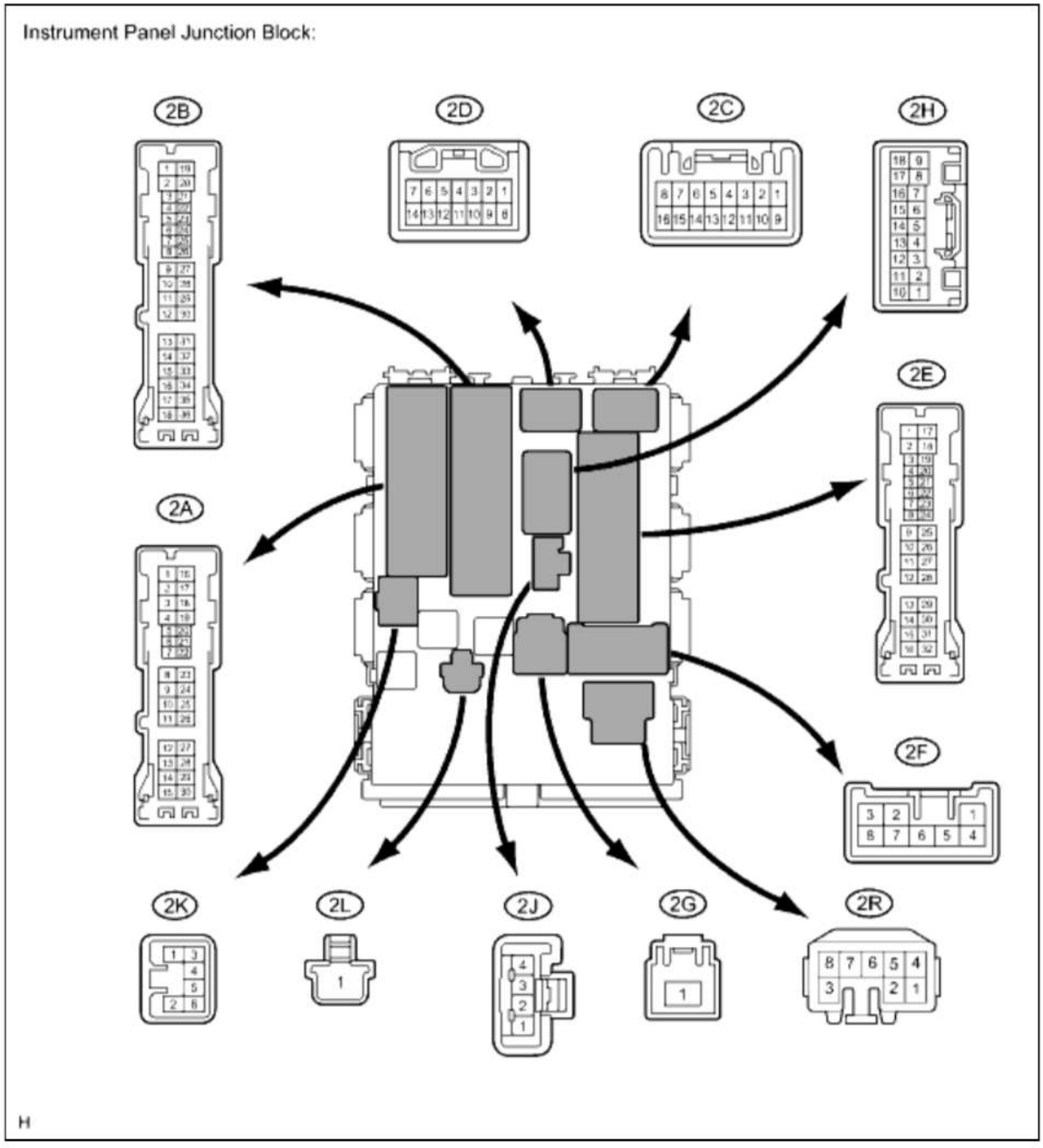
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Last Modified: 3-10-2010	6.4 U	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001O1S016X
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/o Smart Key System): TERMINALS OF ECU (2010 Corolla)		

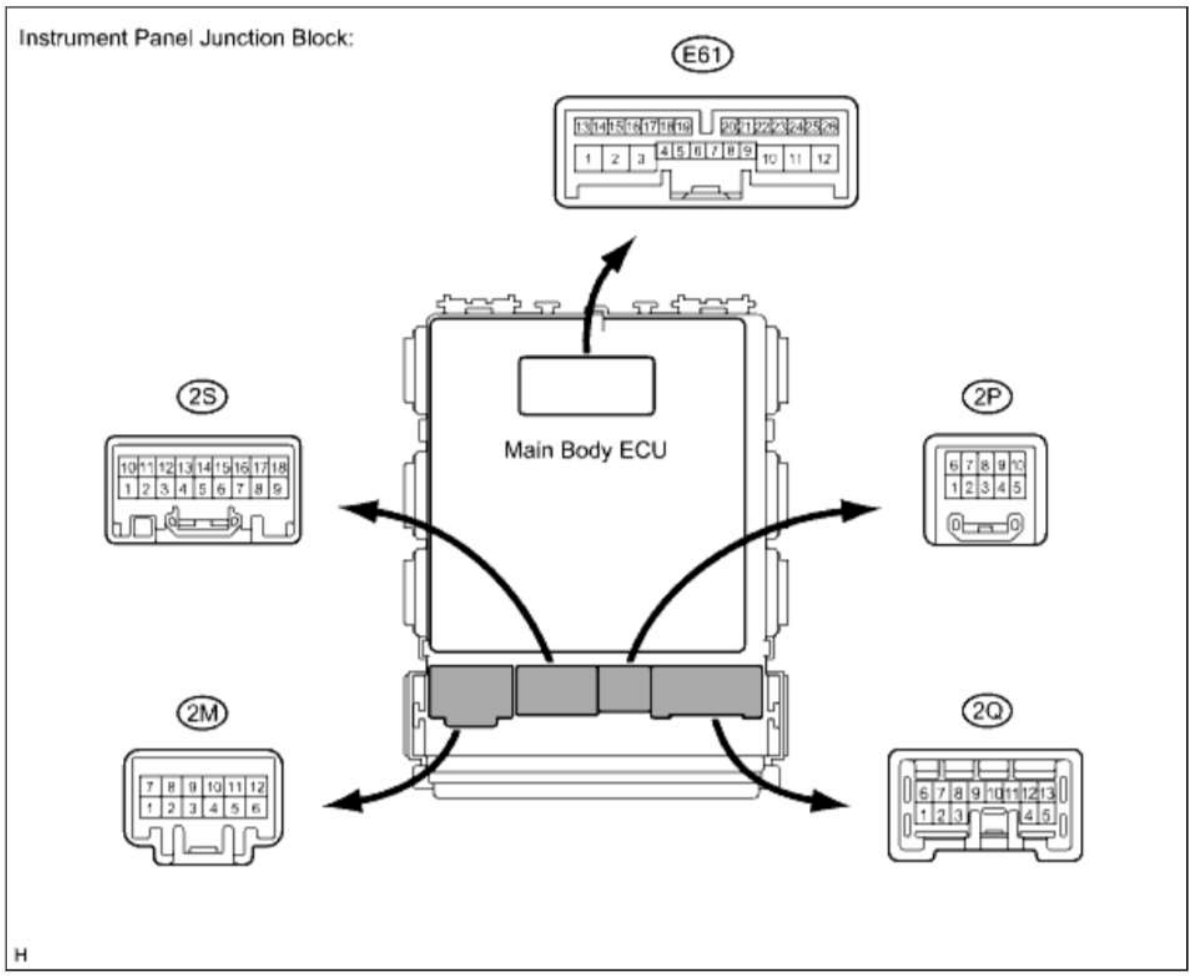
TERMINALS OF ECU

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

(a) Disconnect the 2A, 2B, 2C, 2E, 2F and 2G junction block connectors and E61 main body ECU connector.



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(b) Measure the resistance and voltage between each terminal of the wire harness side connectors and body ground.

TESTER CONNECTION	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
2A-7 (LGCY) - Body ground	LG - Body ground	Luggage compartment door courtesy light switch input	Luggage compartment door CLOSED (OFF) → OPEN (ON)	10 kΩ or higher → Below 1 Ω
2E-20 (PCTY) - Body ground	BR - Body ground*1 BE - Body ground*2	Passenger side door courtesy light switch input	Passenger side door CLOSED (OFF) → OPEN (ON)	10 kΩ or higher → Below 1 Ω
2B-30 (BECU) - Body ground	W - Body ground	+B power supply	Always	11 to 14 V
2C-6 (DCTY) - Body ground	W - Body ground*1 R - Body ground*2	Driver side door courtesy light switch input	Driver side door CLOSED (OFF) → OPEN (ON)	10 kΩ or higher → Below 1 Ω
2E-17 (GND1) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω

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TESTER CONNECTION	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
2E-19 (RCTY) - Body ground	LG - Body ground*1 Y - Body ground*2	Rear courtesy light switch RH input	Rear door RH CLOSED (OFF) → OPEN (ON)	10 kΩ or higher → Below 1 Ω
2E-23 (KSW) - Body ground	L - Body ground	Unlock warning switch input	No key in ignition key cylinder (OFF) → Key inserted (ON)	10 kΩ or higher → Below 1 Ω
2F-5 (ACC) - Body ground	W - Body ground*1 L - Body ground*2	Ignition power supply (ACC signal)	Ignition switch ACC → off	11 to 14 V → Below 1 V
2G-1 (IG) - Body ground	W - Body ground	Ignition power supply (IG signal)	Ignition switch ON → off	11 to 14 V → Below 1 V
2G-1 (ALTB) - Body ground	W - Body ground	+B (power system alternator system) power supply	Always	11 to 14 V
E61-13 (LCTY) - Body ground	SB - Body ground*1 B - Body ground*2	Rear courtesy light switch LH input	Rear door LH CLOSED (OFF) → OPEN (ON)	10 kΩ or higher → Below 1 Ω

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

- *1: for TMC Made
- *2: Except for TMC made

(c) Reconnect the main body ECU and instrument panel junction block connectors.

(d) Measure the voltage between each terminal of the wire harness side connectors and body ground.

TESTER CONNECTION	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
2R-8 (HAZ) - Body ground	GR - Body ground	Turn signal flasher relay signal	Transmitter LOCK or UNLOCK switch is pressed → not pressed	Below 1 V* → 11 to 14 V

- *: When operating the answer back function.

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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001NN601LX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/o Smart Key System): DTC CHECK / CLEAR (2010 Corolla)		

DTC CHECK / CLEAR

1. DTC CHECK/CLEAR (USING TECHSTREAM)

(a) DTC check

(1) Connect the Techstream to the DLC3.

(2) Turn the ignition switch to ON.

(3) Read DTCs on the Techstream screen.

(b) DTC clear

(1) Connect the Techstream to the DLC3.

(2) Turn the ignition switch to ON.

(3) Clear the DTCs following the prompts on the Techstream screen.

HINT:

The Techstream has a SNAPSHOT function which records the monitored data.

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 to 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 to ON then off. (End in OFF)

HINT:

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

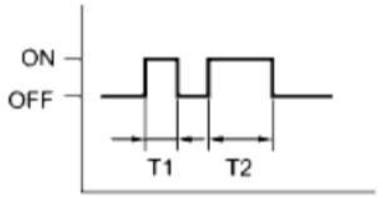
NOTICE:

If the system fails to enter self-diagnostic mode, the system will return to normal mode.

(b) Check that the system has switched to self-diagnostic mode by checking the interior light output pattern.

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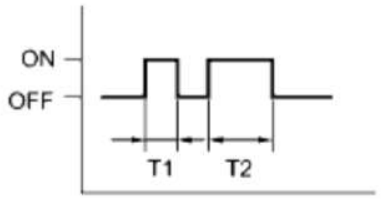
Interior Light Output:



T1: 0.25 seconds

T2: 0.5 seconds

Wireless Door Lock Buzzer Output:



T1: 0.13 seconds

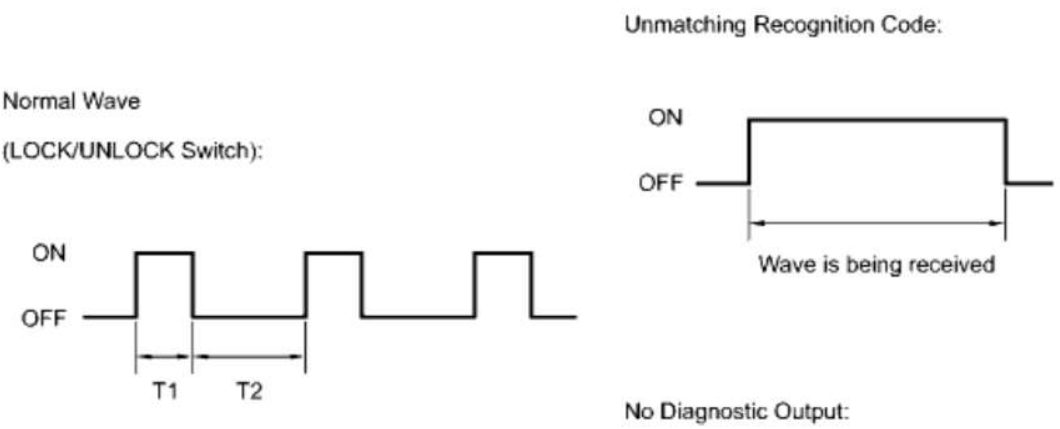
T2: 0.5 seconds

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

(d) Check the diagnostic outputs when the door control transmitter switch is held down. The diagnostic outputs can be checked by the interior light and wireless door lock buzzer patterns.

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Interior Light*1 and Wireless Door Lock Buzzer*2 Output:



T1: 0.25 seconds*1, 0.13 seconds*2

T2: 0.5 seconds

N

3. SELF-DIAGNOSTIC MODE (USING TECHSTREAM)

(a) Switch to self-diagnostic mode.

(1) Connect the Techstream to the DLC3.

(2) Turn the ignition switch to ON and turn the Techstream main switch on.

HINT:

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

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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001PQX058X
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/o Smart Key System): DIAGNOSIS SYSTEM (2010 Corolla)		

DIAGNOSIS SYSTEM

1. DESCRIPTION

The ECU stores trouble codes if a vehicle malfunction occurs.

The diagnostic system allows for reading of the trouble codes from the DLC3 using the Techstream.

Use the Techstream to diagnose and solve the problem.

2. CHECK DLC3

(a) Check the DLC3 INFO .

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Last Modified: 3-10-2010	6.4 U	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000027AI027X
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/o Smart Key System): DATA LIST / ACTIVE TEST (2010 Corolla)		

DATA LIST / ACTIVE TEST

1. DATA LIST

HINT:

Using the 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.

NOTICE:

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 to ON.

(c) Enter the following menus: Body / Main Body / Data List.

(d) Read the Data List according to the display on the Techstream.

Main Body (Main Body ECU)

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Key Unlock Warning SW	Unlock warning switch/ON or OFF	ON: Ignition key is inserted OFF: Ignition key is not inserted	-
Wireless Control	Wireless door lock control function/ON or OFF	ON: Operating OFF: Not operating	-
Hazard Answer Back	Hazard answer-back of wireless/ON or OFF	ON: Operating OFF: Not operating	-
Wireless Buzzer Resp	Wireless door lock buzzer response/ON or OFF	ON: Operating OFF: Not operating	-
Open Door Warning	Open door warning/ON or OFF	ON: Operating OFF: Not operating	-
Unlock 2 Operation	Unlock 2 Operation of wireless unlock/ON or OFF	ON: All doors unlock when UNLOCK switch pressed twice OFF: All doors unlock when UNLOCK switch pressed once	-
Panic Function	Panic function/ON or OFF	ON: Operating OFF: Not operating	-

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TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Trunk Lid Operation	Luggage compartment door open function type/1tim ON/2tim ON/Long1/Long2/Prohibit	1tim ON: Luggage compartment door opens when LUGGAGE OPEN switch is pressed once 2tim ON: Luggage compartment door opens when LUGGAGE OPEN switch is pressed twice Long1: Luggage compartment door opens when LUGGAGE OPEN switch is pressed and held down for 0.6 seconds Long2: Luggage compartment door opens when LUGGAGE OPEN switch is pressed and held down for 1.6 seconds Prohibit: Does not operating	-
Auto Lock Time	Automatic lock time/120 s, 60 s or 30 s	120 s: 120 seconds 60 s: 60 seconds 30 s: 30 seconds	-

2. ACTIVE TEST

HINT:

Using the 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 the Techstream to the DLC3.

(b) Turn the ignition switch to ON.

(c) Enter the following menus: Body / Main Body / Active Test.

(d) Perform the Active Test according to the display on the Techstream.

Main Body (Main Body ECU)

TESTER DISPLAY	TEST PART	CONTROL RANGE	DIAGNOSTIC NOTE
Hazard	Turns the turn signal flasher relay	ON/OFF	Observe headlight and rear combination light for correct operation
Illuminated Entry System	Interior light and ignition key cylinder light (Interior light switch is in DOOR position and all doors are closed)	ON/OFF	-

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TESTER DISPLAY	TEST PART	CONTROL RANGE	DIAGNOSTIC NOTE
Vehicle Horn	Turns the vehicle horns	ON/OFF	-
Trunk and Back-Door Open	Turns the back door opener motor	ON/OFF	Observe back door
Wireless Buzzer	Wireless door lock buzzer	ON/OFF	-

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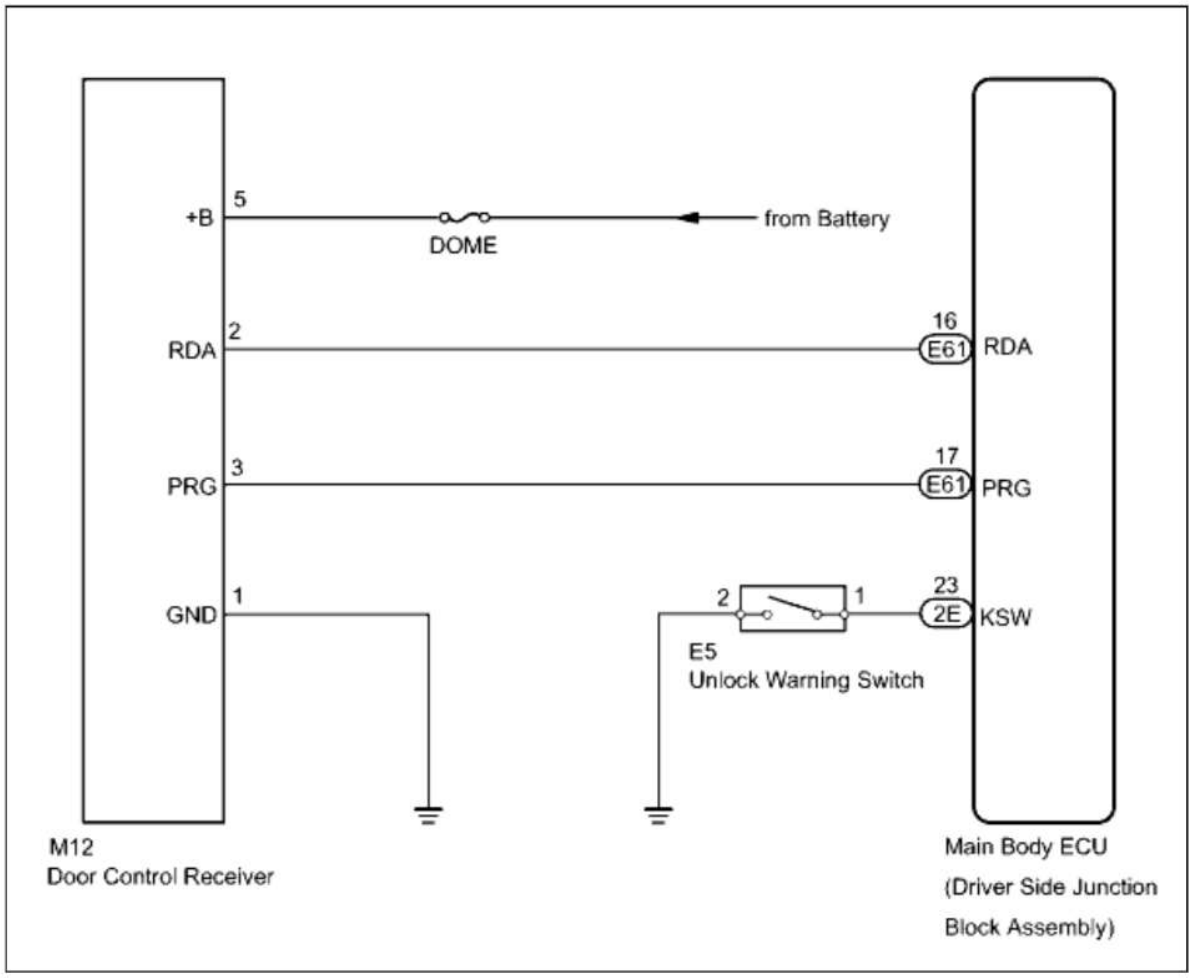
Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001WYB019X
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/o Smart Key System): Only Wireless Control Function is Inoperative (2010 Corolla)		

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



INSPECTION PROCEDURE

PROCEDURE

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1.	CHECK POWER DOOR LOCK OPERATION

(a) When the door control switch on the master switch assembly is operated, check that the locked doors unlock INFO .

OK:
Locked doors unlock.

NG ▶ GO TO POWER DOOR LOCK CONTROL SYSTEM

OK ▼

2.	CHECK KEY REMINDER WARNING SYSTEM

(a) Check that the key reminder warning buzzer operates normally.

OK:
Key reminder warning buzzer operates normally.

NG ▶ GO TO KEY REMINDER WARNING SYSTEM

OK ▼

3.	CHECK DOOR CONTROL TRANSMITTER ASSEMBLY

(a) When another registered door control transmitter is used, check that the wireless operates normally.

Result:

RESULT	PROCEED TO
Wireless door LOCK/UNLOCK function operates and door control transmitter that did not operate is electrical key transmitter	A
Wireless door LOCK/UNLOCK function does not operate	B

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B ▶ CHECK WAVE ENVIRONMENT

A ▼

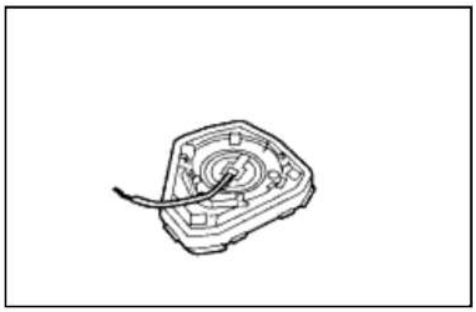
4.	CHECK TRANSMITTER BATTERY

(a) Inspect the battery capacity.

(1) Remove the battery from the electrical key transmitter that does not operate INFO. 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.

NOTICE:

Do not wrap the lead wire around a terminal, wedge it between the terminals, or solder it. A terminal may be deformed or damaged, and the battery will not be able to be installed correctly.



(b) Carefully pull the lead wire out from the position shown in the illustration and install the previously removed transmitter battery.

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

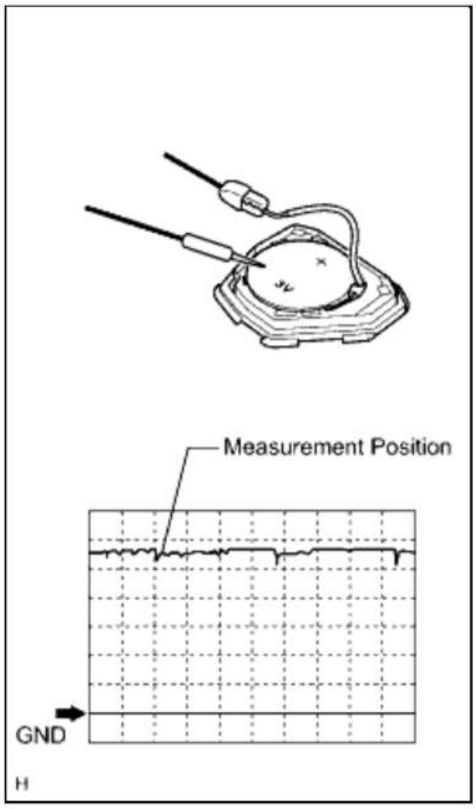
HINT:

Measure the transmitter battery voltage while pressing the LOCK or UNLOCK switch on the transmitter.

Standard Voltage:

ITEM	CONTENT
Tester Connection	Battery positive (+) - Battery negative (-)
Tool Setting	0.5 V/DIV., 100 ms/DIV.
Condition	Ignition switch off, all doors closed and lock or unlock switch is pressed

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Specified Condition	2.2 to 3.2 V (Refer to the waveform)

NG ▶ **REPLACE TRANSMITTER BATTERY**

OK ▶ **REPLACE DOOR CONTROL TRANSMITTER MODULE**

5.	**CHECK WAVE ENVIRONMENT**

(a) Bring the transmitter near the door control receiver, and perform a wireless operation check.

HINT:

- When the transmitter is brought near the door control receiver, the possibility of wave interference decreases, and it can be determined if wave interference is causing the problem symptom.
- If the inspection result is that the problem only occurs in certain locations or times of day, the possibility of wave interference is high. Also, added vehicle components may cause wave interference. If installed, remove them and perform the operation check.

OK:

Wireless functions operate normally.

NG ▶ **AFFECTED BY WAVE INTERFERENCE**

OK

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6.	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 after removing the key, insert the key into the ignition key cylinder (ignition switch off). Then turn the ignition switch to ON and off.

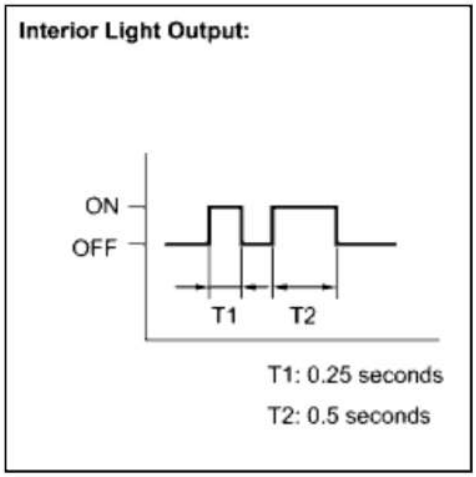
(3) Within 30 seconds after turning the ignition switch off, perform the following operation 9 times: turn the ignition switch to ON and then off.

NOTICE:

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

HINT:

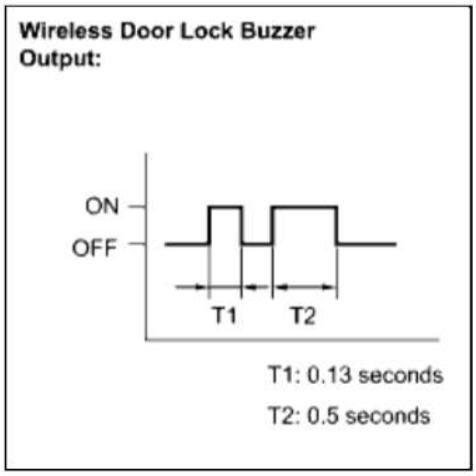
- Turning the ignition switch to ON after the above operations have been completed ends self-diagnostic mode.
- Do not lock or unlock doors during self-diagnostic mode.



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

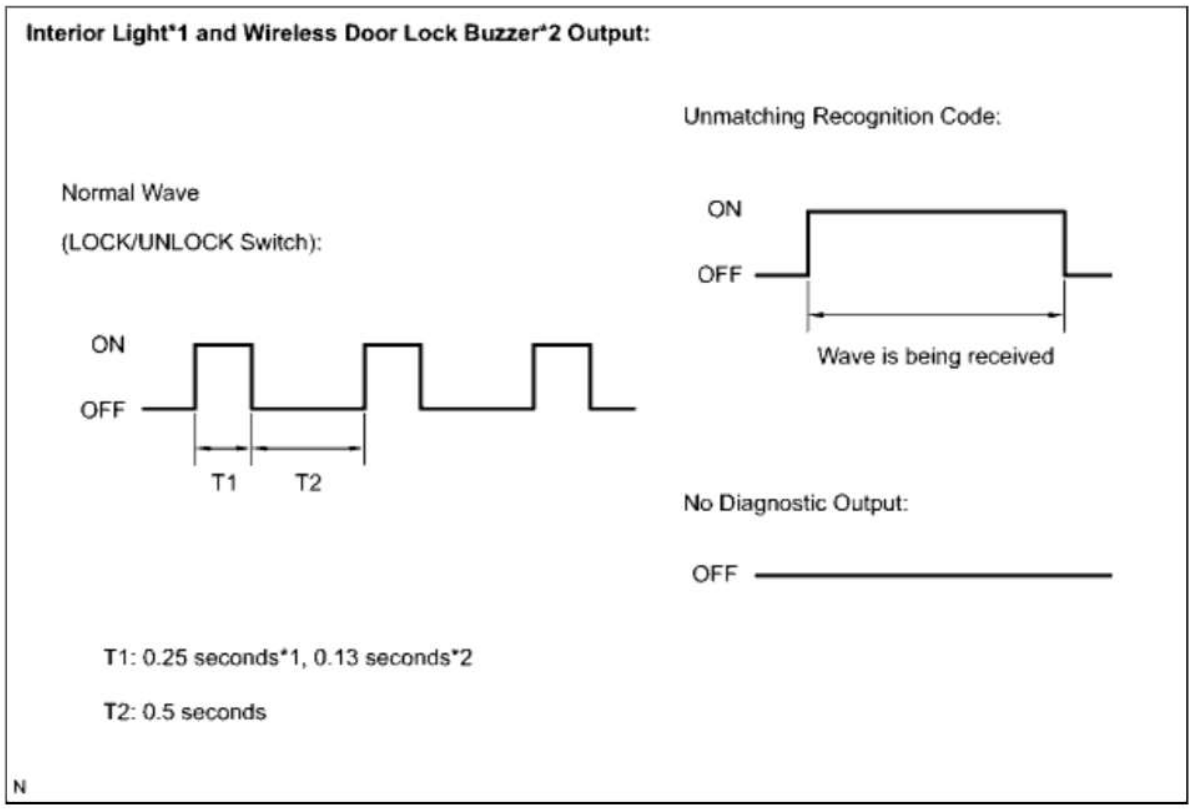
(c) Check that the system has switched to self-diagnostic mode by checking the wireless door lock buzzer output pattern.

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NEXT

7.	CHECK SELF DIAGNOSTIC MODE



(a) Inspect the diagnostic outputs when the door control transmitter switch is held down. The diagnostic outputs can be checked by the flash patterns of the interior lights and the buzzer patterns of the wireless door lock buzzer.

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Result:

RESULT	PROCEED TO
Normal wave (light flash pattern and buzzer pattern) is output	A
Unmatching recognition code is output	B
No diagnosis outputs	C

C ▶ **CHECK DOOR CONTROL RECEIVER (RESPONSE)**

B ▶ **REGISTER RECOGNITION CODE**

A ▶ **REPLACE MAIN BODY ECU**

8.	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 INFO.

OK:
Recognition code can be registered.

NG ▶ **REPLACE DOOR CONTROL RECEIVER**

OK ▶ **END (GO TO OPERATION CHECK)**

9.	CHECK DOOR CONTROL RECEIVER (RESPONSE)

(a) Prepare the door control transmitter from another vehicle.

(b) Press and hold down the door control transmitter switch.

(c) Check that an unmatching recognition code is output.

OK:
Unmatching recognition code is output.

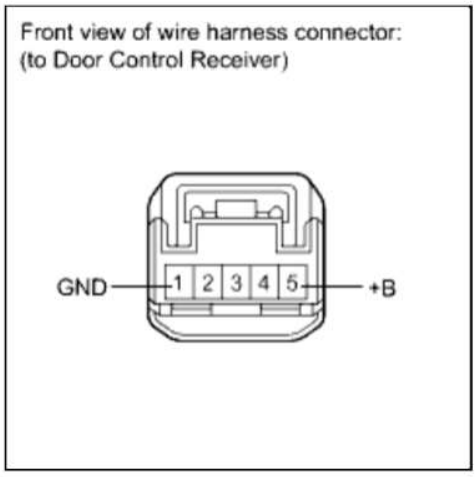
NG ▶ **CHECK DOOR CONTROL RECEIVER (+B, GND)**

OK ▶ **REPLACE DOOR CONTROL TRANSMITTER MODULE**

10.	CHECK DOOR CONTROL RECEIVER (+B, GND)

(a) Disconnect the door control receiver.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 (GND) - Body ground	Always	Below 1 Ω

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
5 (+B) - Body ground	Always	11 to 14 V

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

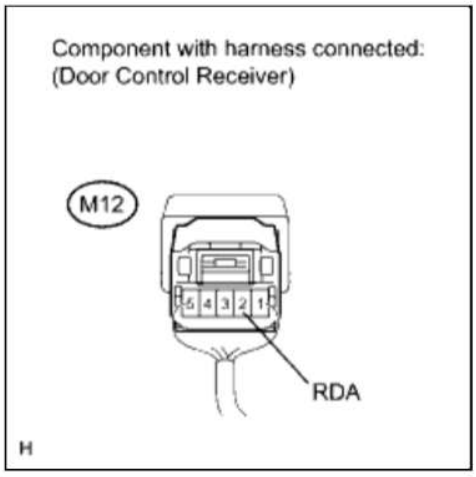
11.	**CHECK DOOR CONTROL RECEIVER (OUTPUT)**

(a) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
M12-2 (RDA) -	Transmitter switch OFF	6 V or higher →

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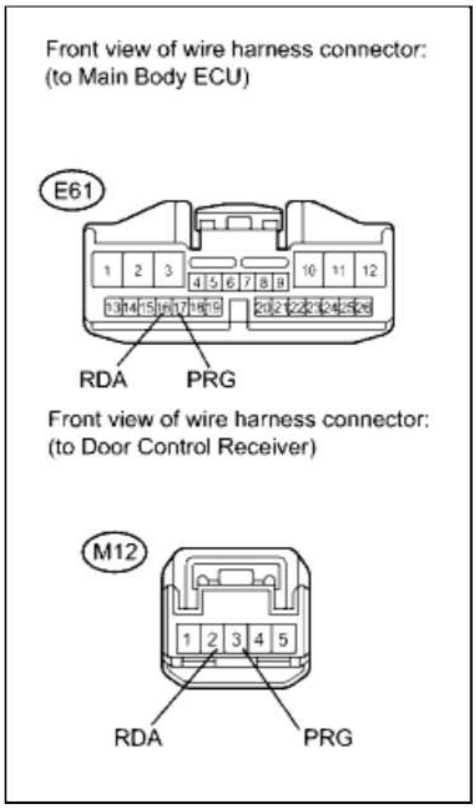


Body ground	→ ON (No key in ignition key cylinder, all doors closed)	Below 1 V → 6 V or higher

NG ▶ **REPLACE DOOR CONTROL RECEIVER**

OK
▼

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



(a) Disconnect the E61 main body ECU connector and the M12 door control receiver connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E61-16 (RDA) - M12-2 (RDA)	Always	Below 1 Ω
E61-16 (RDA) - Body ground	Always	10 kΩ or higher
E61-17 (PRG) - M12-3 (PRG)	Always	Below 1 Ω
E61-17 (PRG) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

13.	**REPLACE DOOR CONTROL RECEIVER**

(a) Temporarily replace the door lock control receiver with a new or known good one INFO.

NEXT ▼

14.	**REGISTER RECOGNITION CODE**

(a) Perform the Registration procedure INFO.

NEXT ▼

15.	**CHECK DOOR CONTROL RECEIVER (OPERATION)**

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

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OK:

Doors can be locked and unlocked using transmitter.

NG ▶ REPLACE MAIN BODY ECU

OK ▶ END (DOOR CONTROL RECEIVER IS DEFECTIVE)



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Last Modified: 3-10-2010	6.4 C	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001NN301EX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/o Smart Key System): B1242: Wireless Door Lock Tuner Circuit Malfunction (2010 Corolla)		

DTC	**B1242**	**Wireless Door Lock Tuner Circuit Malfunction**

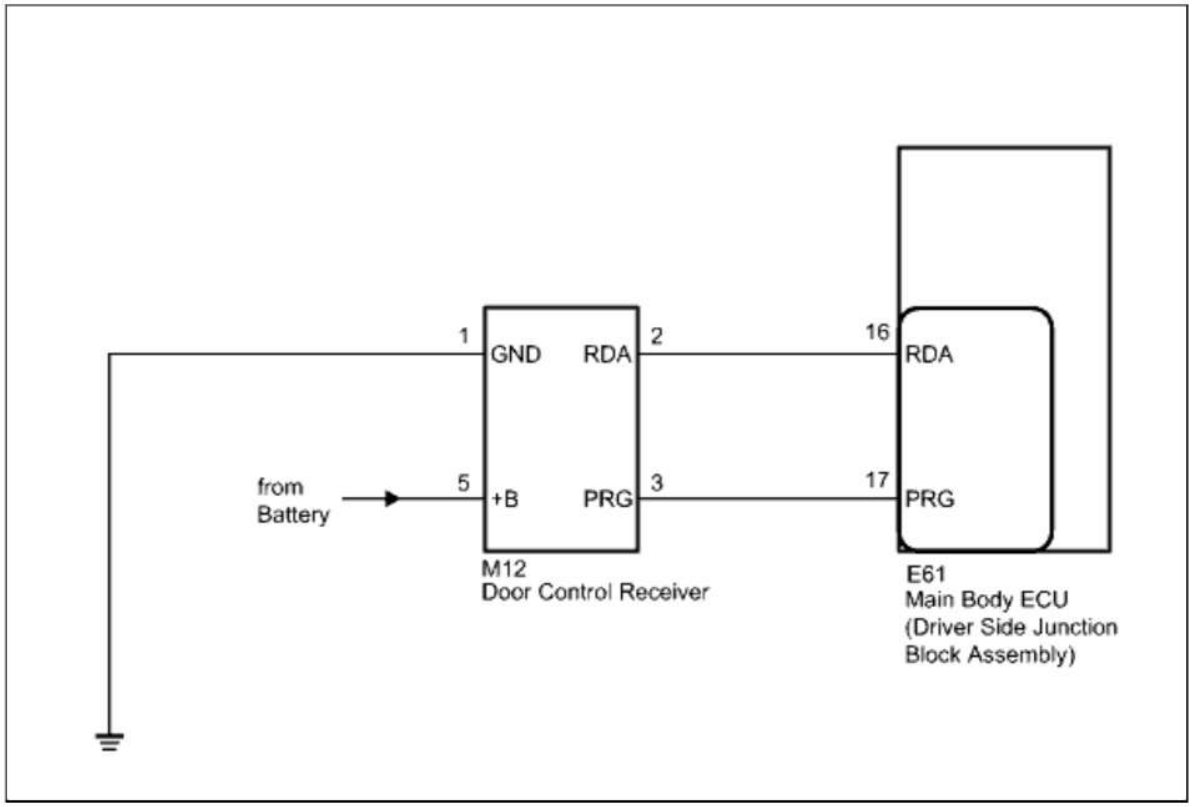
DESCRIPTION

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

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B1242	In diagnostic mode, an applicable RDA signal cannot be received within 2.4 second after an PRG signal has been output from the main body ECU.	• Wire harness or connector • Door control receiver • Main body ECU (Instrument panel junction block)

WIRING DIAGRAM

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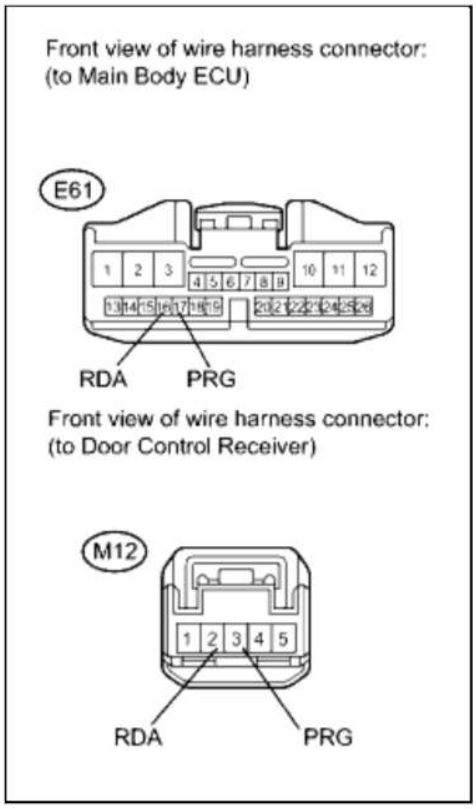
INSPECTION PROCEDURE

PROCEDURE

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

(a) Disconnect the E61 main body ECU connector and the M12 door control receiver connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E61-16 (RDA) - M12-2 (RDA)	Always	Below 1 Ω
E61-16 (RDA) - Body ground	Always	10 kΩ or higher
E61-17 (PRG) - M12-3 (PRG)	Always	Below 1 Ω
E61-17 (PRG) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

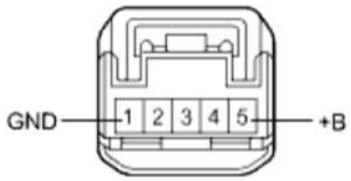
OK ▼

2.	**CHECK HARNESS AND CONNECTOR (BATTERY, BODY GROUND)**

(a) Measure the voltage and resistance according to the value(s) in the table below.

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



Standard:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
M12-1 (GND) - Body ground	Always	Below 1 Ω
M12-5 (+B) - Body ground	Always	11 to 14 V

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK
▼

3.	**REPLACE DOOR CONTROL RECEIVER**

(a) Temporarily replace the door lock control receiver with a new or known good one INFO.

NEXT
▼

4.	**REGISTER RECOGNITION CODE**

(a) Perform the Registration procedure INFO.

NEXT
▼

5.	**CONFIRM DTC**

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(a) Clear the DTCs INFO.

(b) Check if the same DTC is detected.

Result:

RESULT	PROCEED TO
DTC is not output	A
DTC is output	B

B ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

A ▶ **END (DOOR CONTROL RECEIVER IS DEFECTIVE)**

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Last Modified: 3-10-2010	6.4 S	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001NN201AX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/o Smart Key System): DIAGNOSTIC TROUBLE CODE CHART (2010 Corolla)		

DIAGNOSTIC TROUBLE CODE CHART

HINT:

If a trouble code is displayed during the DTC check, inspect the trouble areas listed for that code. For details of the code, refer to "See page" in the DTC chart.

- Inspect the fuses and relays before troubleshooting the areas shown in the table below.

Wireless Door Lock Control System

DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
B1242	Wireless Door Lock Tuner Circuit Malfunction	1. Wire harness or connector 2. Door control receiver 3. Main body ECU (instrument panel junction block)	INFO

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Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001WYD012X
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM (w/o Smart Key System): No Answer-Back (2010 Corolla)		

No Answer-Back

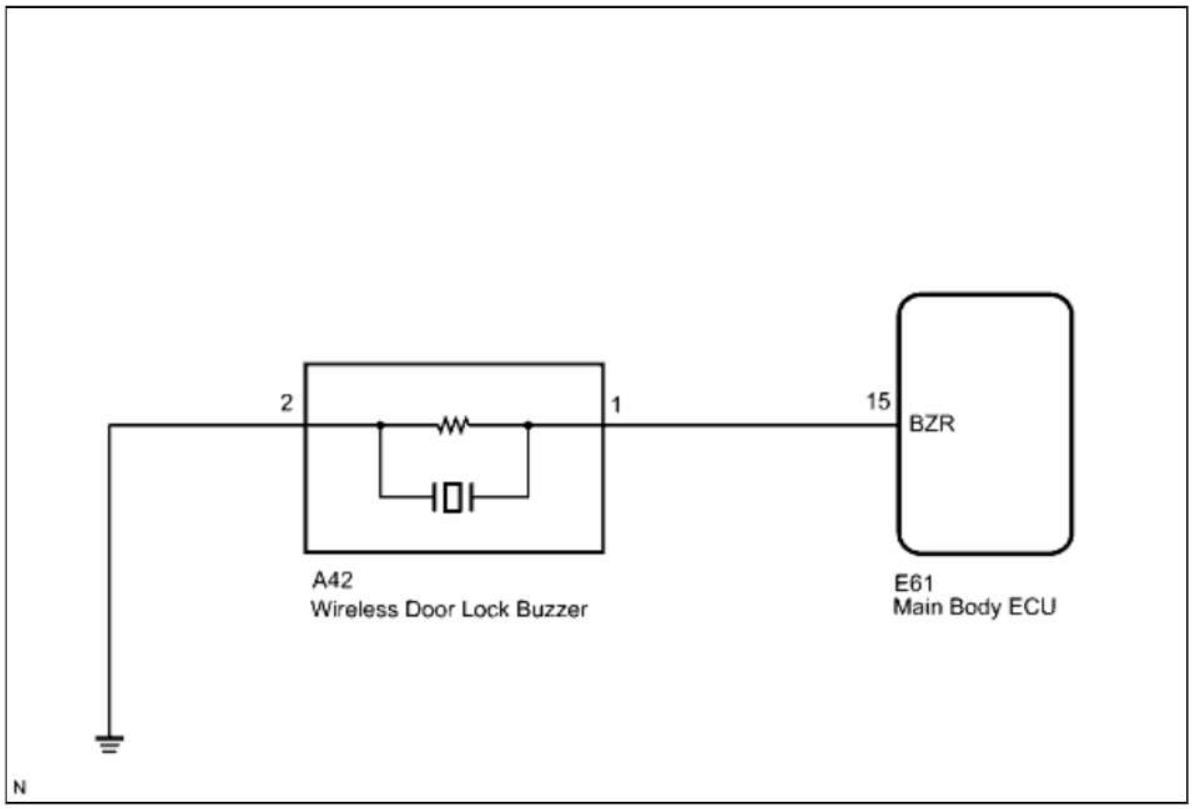
DESCRIPTION

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 hazard warning lights and/or wireless door lock buzzer signal outputs may be malfunctioning.

NOTICE:

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

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

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1.	**CHECK WIRELESS DOOR LOCK CONTROL FUNCTION**

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

Result:

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 using transmitter	C

C ▶ **GO TO PROBLEM SYMPTOMS TABLE**

B ▶ **PERFORM ACTIVE TEST USING TECHSTREAM (WIRELESS DOOR LOCK BUZZER)**

A ▼

2.	**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**

OK ▶ **REPLACE MAIN BODY ECU**

3.	**PERFORM ACTIVE TEST USING TECHSTREAM (WIRELESS DOOR LOCK BUZZER)**

(a) Enter Active Test, using the Techstream to generate a control command, and then check that the wireless buzzer operates normally.

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Main Body

TESTER DISPLAY	TEST PART	CONTROL RANGE	DIAGNOSTIC NOTE
Wireless Buzzer	Wireless Door Lock Buzzer	ON/OFF	-

OK:
Wireless buzzer turns ON/OFF.

NG ▶ **INSPECT WIRELESS DOOR LOCK BUZZER**

OK ▶ **REPLACE MAIN BODY ECU**

4.	**INSPECT WIRELESS DOOR LOCK BUZZER**

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 - 2	Always	950 to 1050 Ω

Component without harness connected:
(Wireless Door Lock Buzzer)



NOTICE:

When battery voltage is directly applied to the buzzer, the buzzer does not sound.

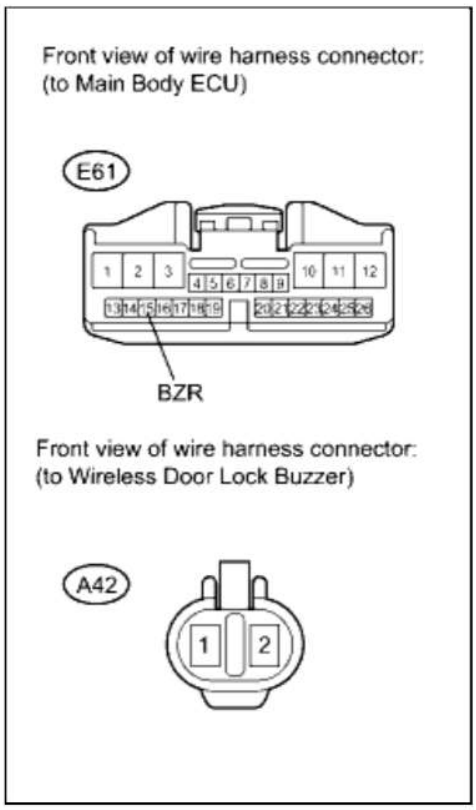
NG ▶ **REPLACE WIRELESS DOOR LOCK BUZZER**

OK ▼

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

(a) Disconnect the E61 main body ECU connector.

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(b) Disconnect the A42 wireless door lock buzzer connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E61-15 (BZR) - A42-1	Always	Below 1 Ω
E61-15 (BZR) - Body ground	Always	10 kΩ or higher
A42-2 - Body ground	Always	Below 1 Ω

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **REPLACE MAIN BODY ECU**

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