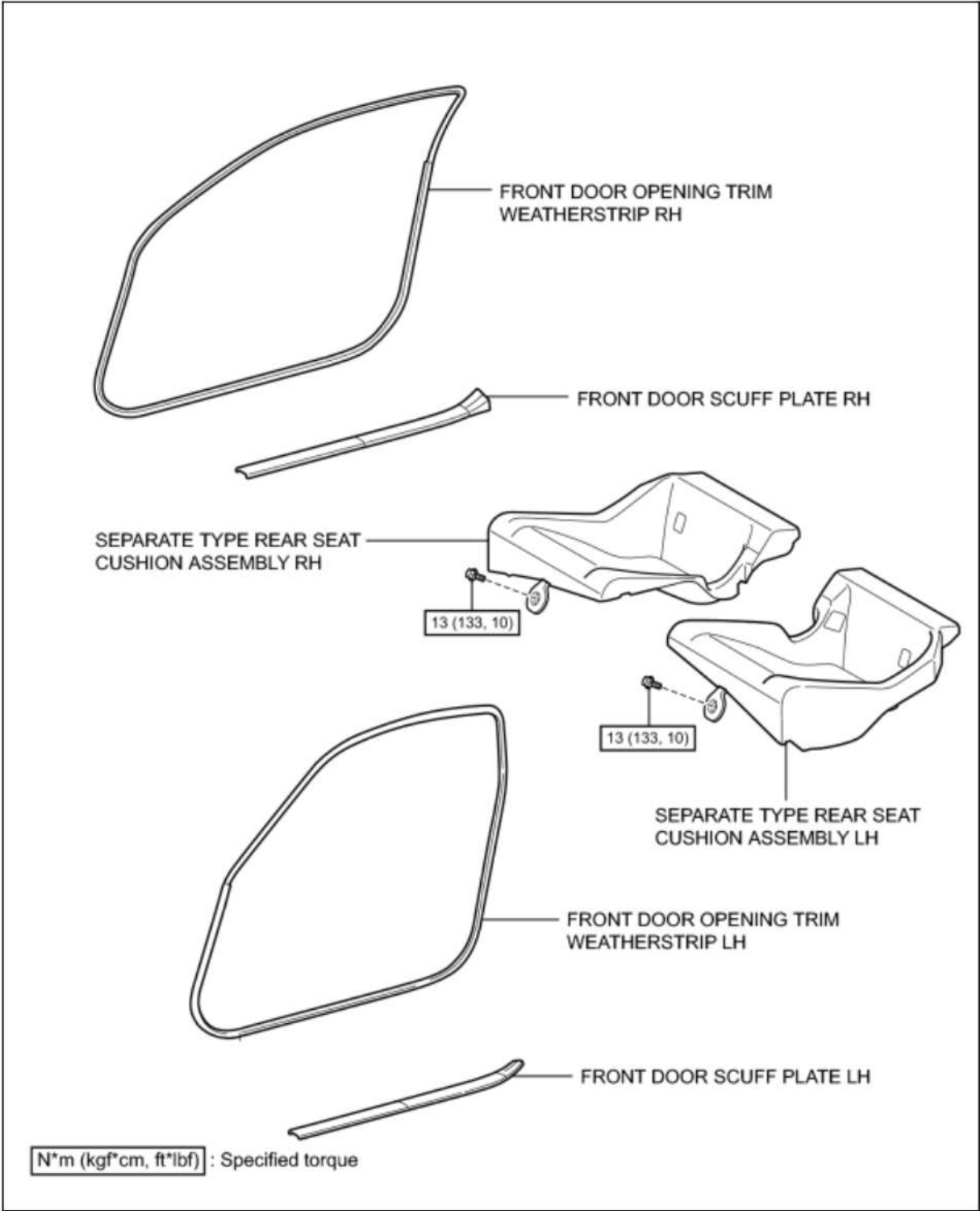


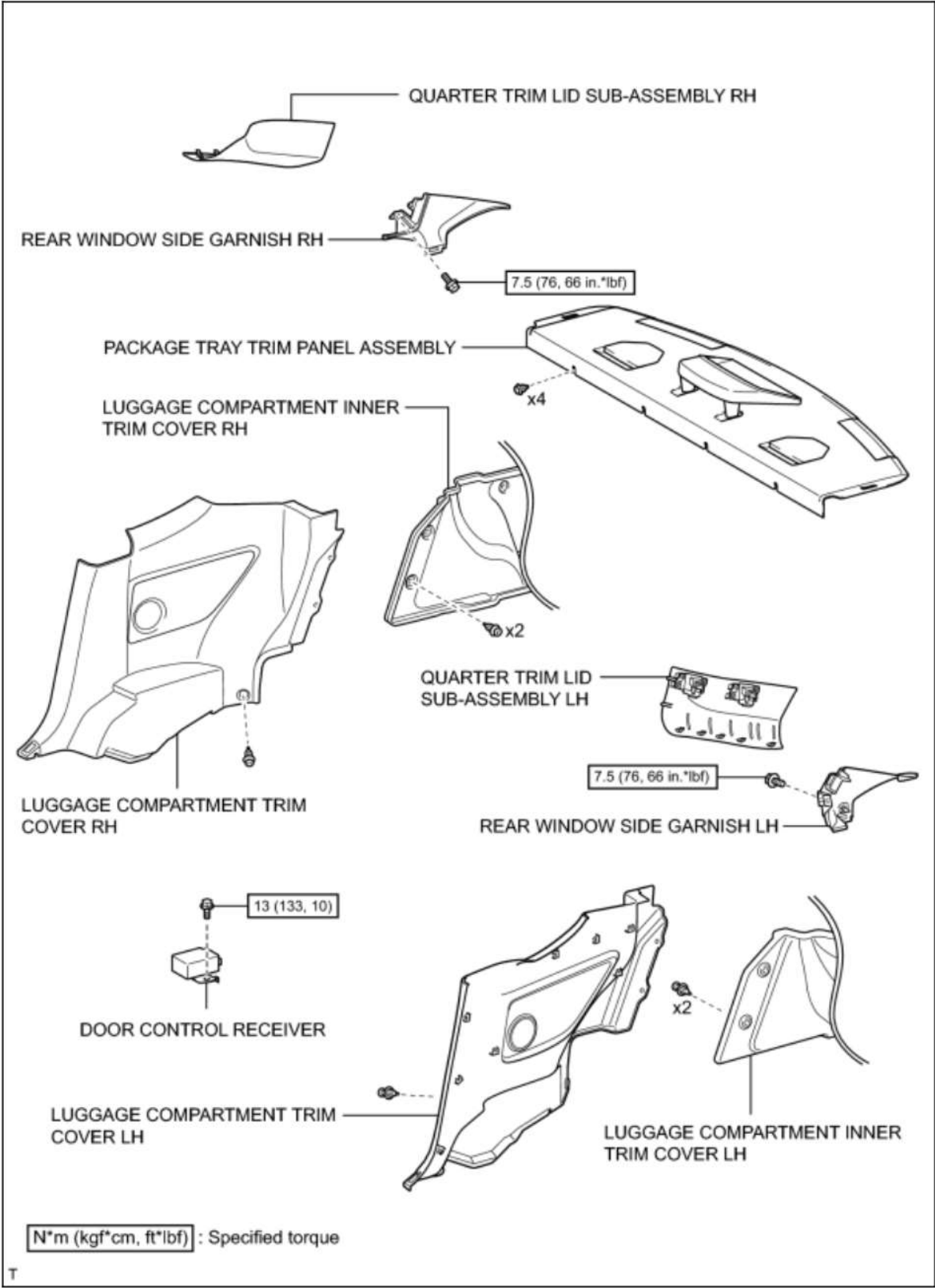
Last Modified: 3-27-2012	6.4 K	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000003ZWC005X
Title: DOOR LOCK: DOOR CONTROL RECEIVER: COMPONENTS (2013 FR-S)		

COMPONENTS

ILLUSTRATION



ILLUSTRATION



Last Modified: 3-27-2012	6.4 A	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000002PLM020X
Title: DOOR LOCK: DOOR CONTROL RECEIVER: INSTALLATION (2013 FR-S)		

INSTALLATION

1. INSTALL DOOR CONTROL RECEIVER

- (a) Engage the guide and install the door control receiver.
- (b) Install the bolt.

Torque: 13 N·m (133 kgf·cm, 10ft·lbf)

- (c) Connect the connector.

NOTICE:

- Do not drop the door control receiver or apply impact on it.
- When replacing or inspecting the door control receiver, do not change the wiring route or the length of the harness around the receiver.

2. INSTALL PACKAGE TRAY TRIM PANEL ASSEMBLY

- (a) Engage the 4 clips and install the package tray trim panel assembly with the center stop light assembly.
- (b) Install the 4 clips.
- (c) Connect the connector.

3. INSTALL REAR WINDOW SIDE GARNISH LH INFO

4. INSTALL REAR WINDOW SIDE GARNISH RH

HINT:

Use the same procedure described for the LH side.

5. INSTALL QUARTER TRIM LID SUB-ASSEMBLY LH INFO

6. INSTALL QUARTER TRIM LID SUB-ASSEMBLY RH

HINT:

Use the same procedure described for the LH side.

7. INSTALL LUGGAGE COMPARTMENT TRIM COVER LH INFO

8. INSTALL LUGGAGE COMPARTMENT TRIM COVER RH

HINT:

Use the same procedure described for the LH side.

9. CONNECT LUGGAGE COMPARTMENT INNER TRIM COVER LH INFO

10. CONNECT LUGGAGE COMPARTMENT INNER TRIM COVER RH

HINT:

Use the same procedure described for the LH side.

11. INSTALL FRONT DOOR SCUFF PLATE LH INFO

12. INSTALL FRONT DOOR SCUFF PLATE RH

HINT:

Use the same procedure described for the LH side.

13. INSTALL FRONT DOOR OPENING TRIM WEATHERSTRIP LH INFO

14. INSTALL FRONT DOOR OPENING TRIM WEATHERSTRIP RH

HINT:

Use the same procedure described for the LH side.

15. INSTALL SEPARATE TYPE REAR SEAT CUSHION ASSEMBLY LH INFO

16. INSTALL SEPARATE TYPE REAR SEAT CUSHION ASSEMBLY RH INFO



Last Modified: 3-27-2012	6.4 A	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000002PLO01TX
Title: DOOR LOCK: DOOR CONTROL RECEIVER: REMOVAL (2013 FR-S)		

REMOVAL

1. REMOVE SEPARATE TYPE REAR SEAT CUSHION ASSEMBLY LH [INFO](#)
2. REMOVE SEPARATE TYPE REAR SEAT CUSHION ASSEMBLY RH [INFO](#)
3. REMOVE FRONT DOOR OPENING TRIM WEATHERSTRIP LH [INFO](#)
4. REMOVE FRONT DOOR OPENING TRIM WEATHERSTRIP RH

HINT:

Use the same procedure described for the LH side.

5. REMOVE FRONT DOOR SCUFF PLATE LH [INFO](#)
6. REMOVE FRONT DOOR SCUFF PLATE RH

HINT:

Use the same procedure described for the LH side.

7. SEPARATE LUGGAGE COMPARTMENT INNER TRIM COVER LH [INFO](#)
8. SEPARATE LUGGAGE COMPARTMENT INNER TRIM COVER RH

HINT:

Use the same procedure described for the LH side.

9. REMOVE LUGGAGE COMPARTMENT TRIM COVER LH [INFO](#)
10. REMOVE LUGGAGE COMPARTMENT TRIM COVER RH

HINT:

Use the same procedure described for the LH side.

11. REMOVE QUARTER TRIM LID SUB-ASSEMBLY LH [INFO](#)
12. REMOVE QUARTER TRIM LID SUB-ASSEMBLY RH

HINT:

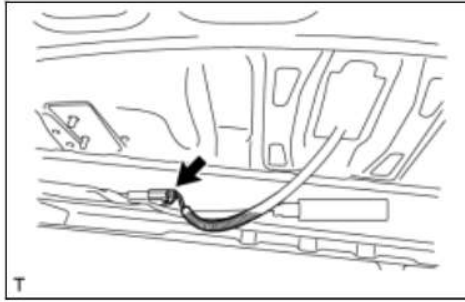
Use the same procedure described for the LH side.

13. REMOVE REAR WINDOW SIDE GARNISH LH [INFO](#)
14. REMOVE REAR WINDOW SIDE GARNISH RH

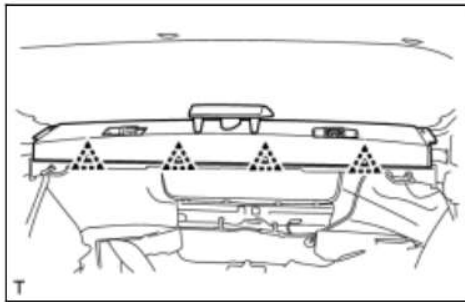
HINT:

Use the same procedure described for the LH side.

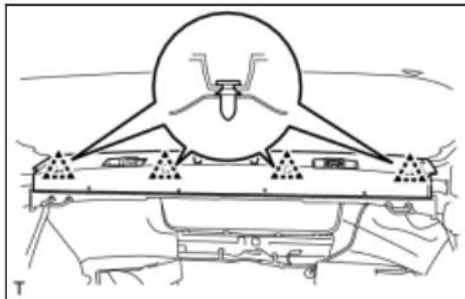
15. REMOVE PACKAGE TRAY TRIM PANEL ASSEMBLY



(a) Disconnect the connector.

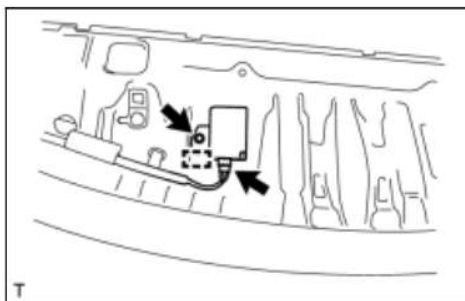


(b) Remove the 4 clips.



(c) Disengage the 4 clips and remove the package tray trim panel assembly with the center stop light assembly.

16. REMOVE DOOR CONTROL RECEIVER



(a) Disconnect the connector.

(b) Remove the bolt.

(c) Disengage the guide and remove the door control receiver.

NOTICE:

Do not drop the door control receiver or apply impact on it.

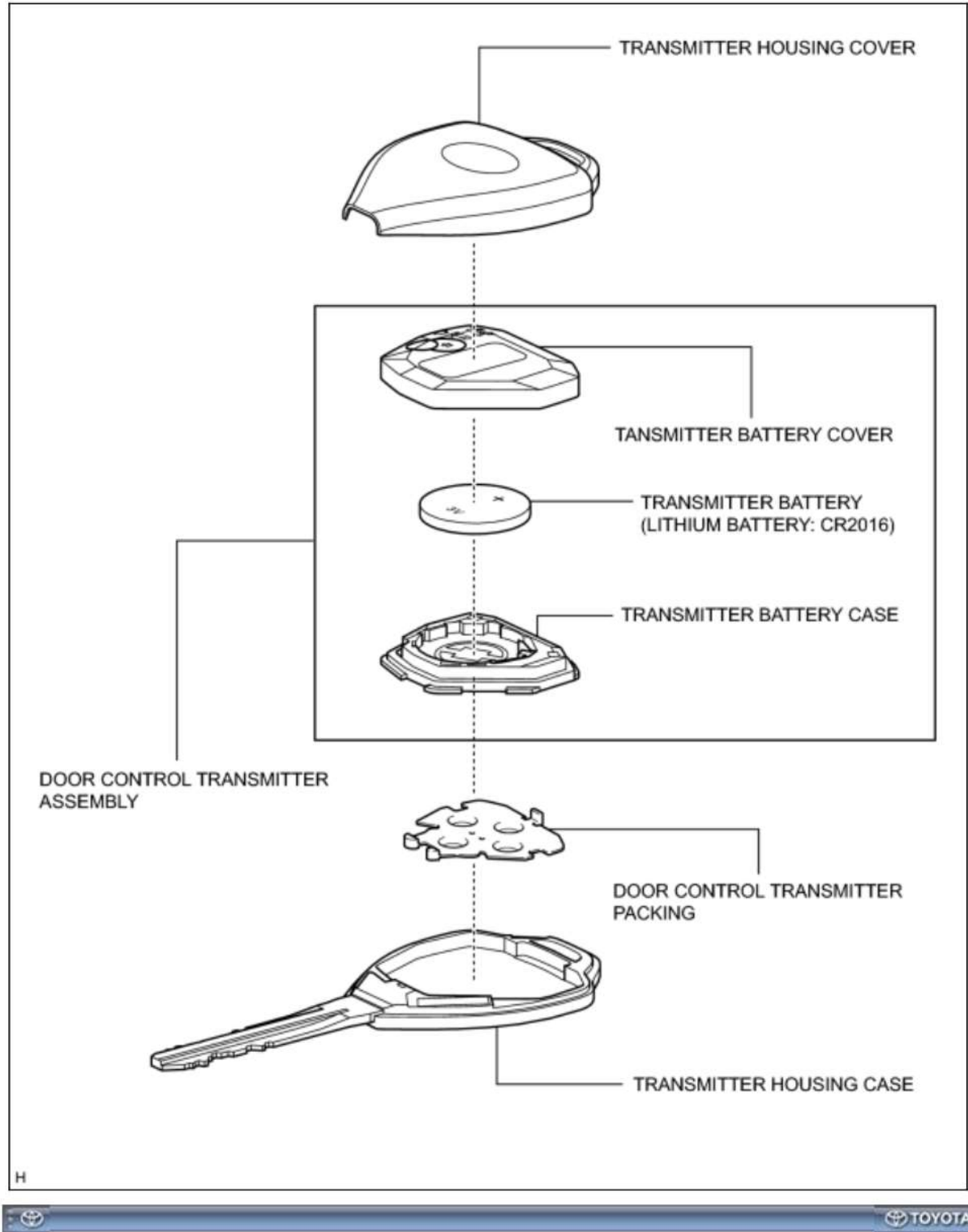


cardiagn.com

Last Modified: 3-27-2012	6.4 K	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM0000010WI01TX
Title: DOOR LOCK: DOOR CONTROL TRANSMITTER: COMPONENTS (2013 FR-S)		

COMPONENTS

ILLUSTRATION



Last Modified: 3-27-2012	6.4 G	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM0000010DZ022X
Title: DOOR LOCK: DOOR CONTROL TRANSMITTER: INSPECTION (2013 FR-S)		

INSPECTION

1. INSPECT DOOR CONTROL TRANSMITTER ASSEMBLY

(a) Inspect the operation of the door control transmitter assembly.

- (1) Remove the transmitter battery (lithium battery: CR2016) from the door control transmitter assembly.

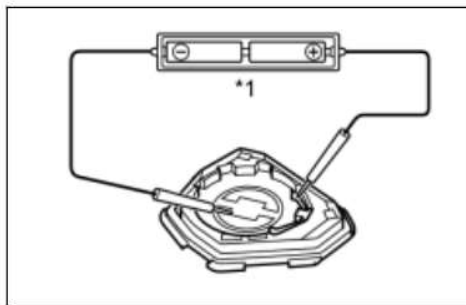
NOTICE:

When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter from being damaged.

- (2) Install a new or normal transmitter battery (lithium battery: CR2016).

NOTICE:

When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter from being damaged.



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

Text in Illustration

*1	Battery
----	---------

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

OK:

The door lock/unlock can be operated via remote control. The LED illuminates when each switch is pressed.

HINT:

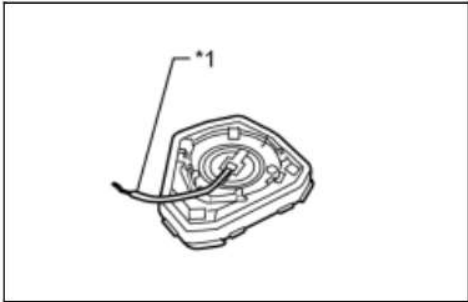
- The minimum operational distance differs depending on the way the transmitter is held and the location.
- Since the transmitter uses faint electric waves, the operational distance might be shortened if noise or strong electric waves occur in the area.

- (5) Install the battery (lithium battery: CR2016).

(b) Inspect the battery charge.

- (1) Remove the battery from the door control

transmitter assembly that does not operate. Attach a lead wire (0.6 mm (0.0236 in.) or less in diameter including wire sheath) with tape or equivalent to the negative terminal.

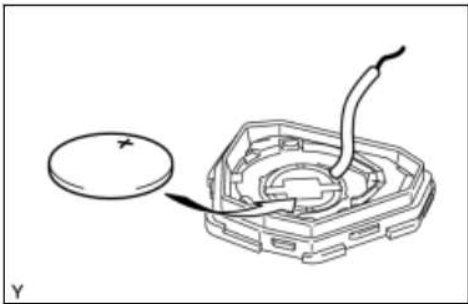


NOTICE:

- Do not wrap the lead wire around the terminal, wedge it between terminals, or solder it. The terminal may be deformed or damaged, and the battery will not be able to be installed correctly.
- When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter from being damaged.

Text in Illustration

*1	Wire
----	------



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

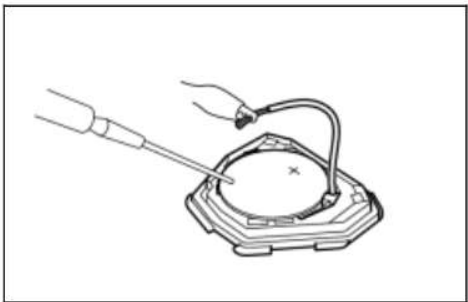
NOTICE:

When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the electrical key transmitter from being damaged.

- (3) Check the transmitter battery voltage.

HINT:

Measure the transmitter battery voltage while pressing the lock or unlock switch on the door control transmitter assembly set sub-assembly.



Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
Battery positive (+) - Battery negative (-)	Ignition switch off, all doors closed and lock or unlock switch is pressed	2.2 to 3.2 V

Last Modified: 3-27-2012	6.4 A	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM0000010W8022X
Title: DOOR LOCK: DOOR CONTROL TRANSMITTER: INSTALLATION (2013 FR-S)		

INSTALLATION

NOTICE:

Take extra care when handling these precision electronic components.

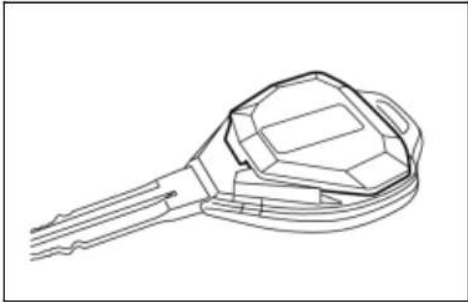
1. INSTALL TRANSMITTER BATTERY

INFO

2. INSTALL DOOR CONTROL TRANSMITTER PACKING

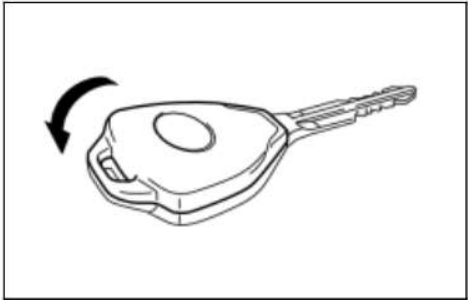
(a) Install the door control transmitter packing.

3. INSTALL DOOR CONTROL TRANSMITTER ASSEMBLY



(a) Install the door control transmitter assembly.

4. INSTALL TRANSMITTER HOUSING COVER



(a) Install the transmitter housing cover onto the transmitter housing case securely.

(b) After the installation, press any of the transmitter switches.



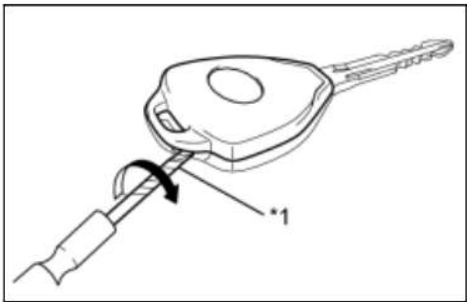
Last Modified: 3-27-2012	6.4 A	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM0000010W9022X
Title: DOOR LOCK: DOOR CONTROL TRANSMITTER: REMOVAL (2013 FR-S)		

REMOVAL

NOTICE:

Take extra care when handling these precision electronic components.

1. REMOVE TRANSMITTER HOUSING COVER



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

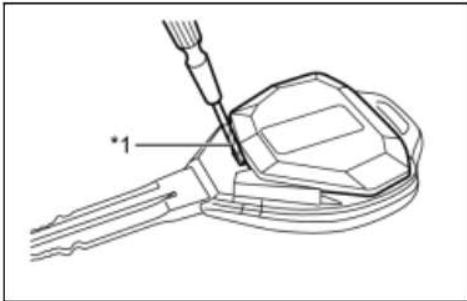
Text in Illustration

*1	Protective Tape
----	-----------------

NOTICE:

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

2. REMOVE DOOR CONTROL TRANSMITTER ASSEMBLY



(a) Using a screwdriver with its tip wrapped in protective tape, remove the door control transmitter assembly.

Text in Illustration

*1	Protective Tape
----	-----------------

3. REMOVE DOOR CONTROL TRANSMITTER PACKING

(a) Remove the door control transmitter packing.

4. REMOVE TRANSMITTER BATTERY

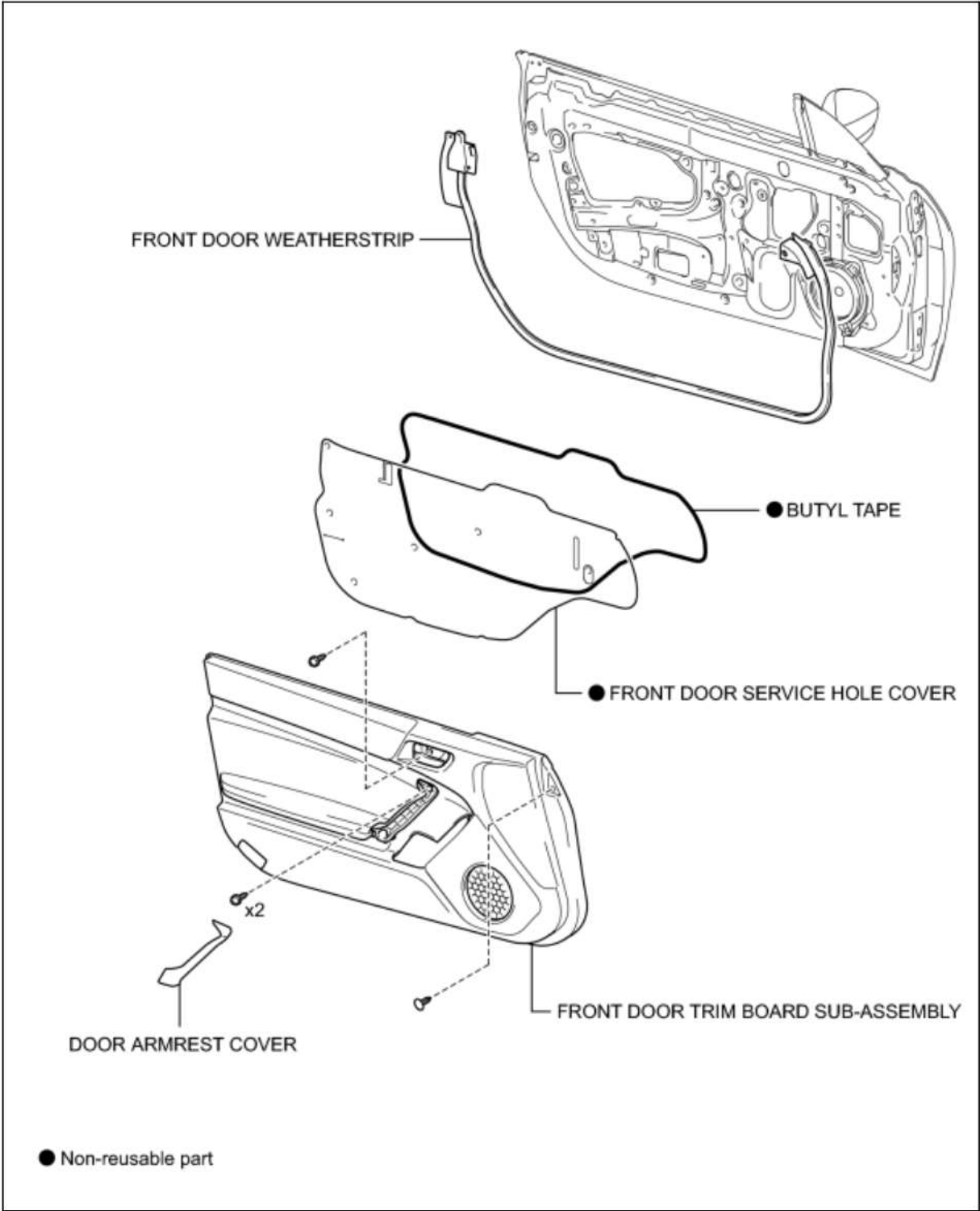
INFO



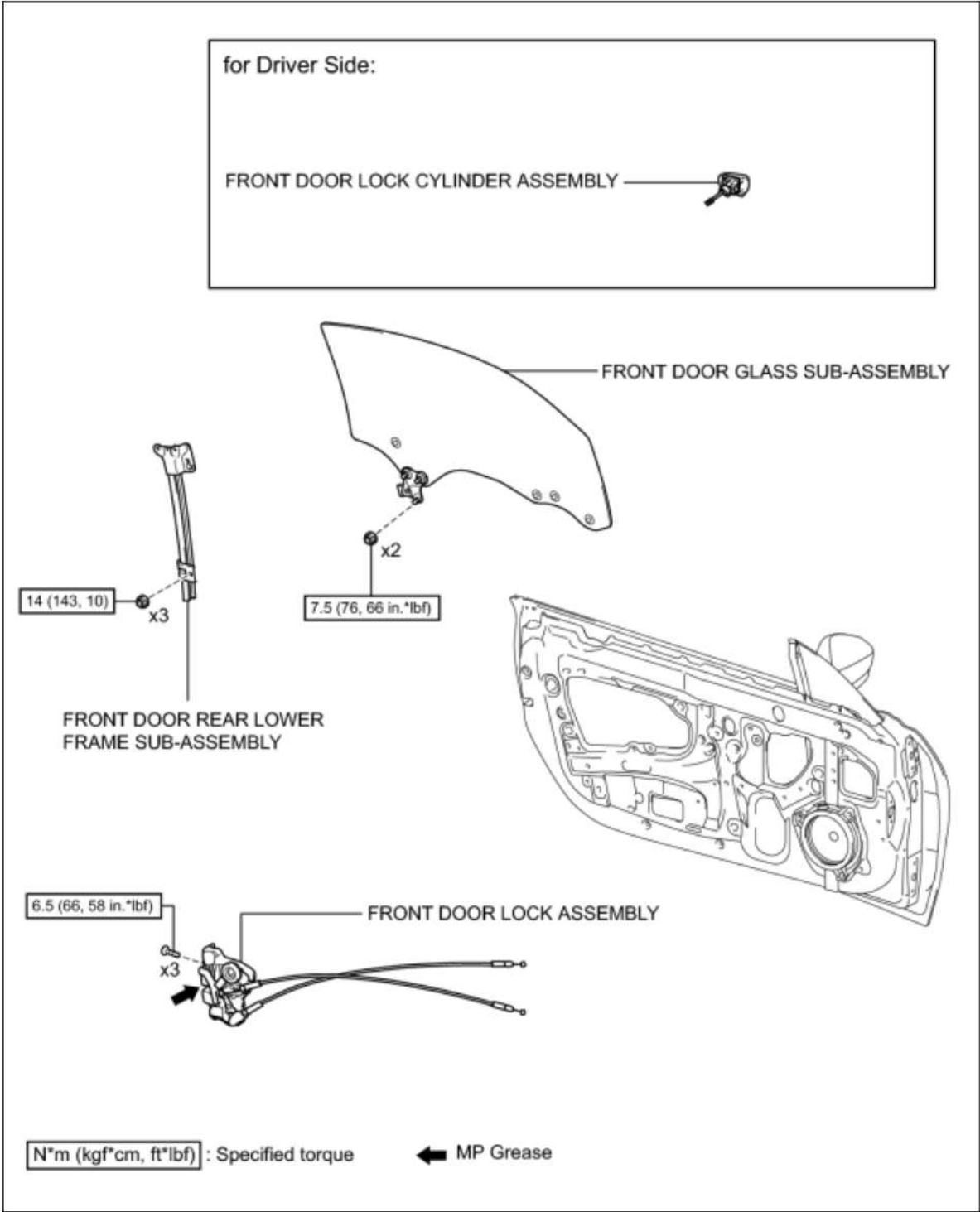
Last Modified: 3-27-2012	6.4 K	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000000XBA06CX
Title: DOOR LOCK: FRONT DOOR LOCK: COMPONENTS (2013 FR-S)		

COMPONENTS

ILLUSTRATION



ILLUSTRATION

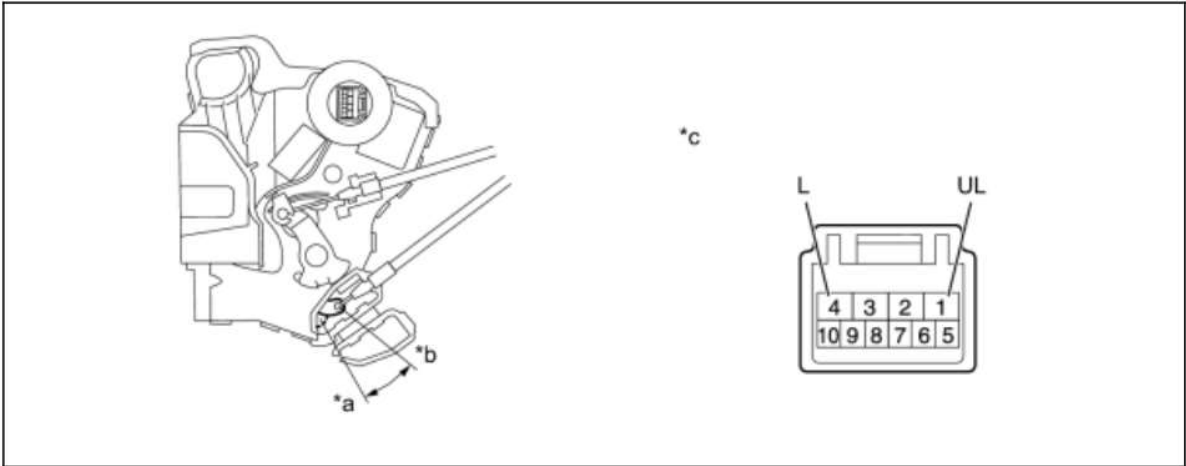


cardiagn.com

Last Modified: 3-27-2012	6.4 G	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000001Y7Y03QX
Title: DOOR LOCK: FRONT DOOR LOCK: INSPECTION (2013 FR-S)		

INSPECTION

1. INSPECT FRONT DOOR LOCK ASSEMBLY LH



Text in Illustration

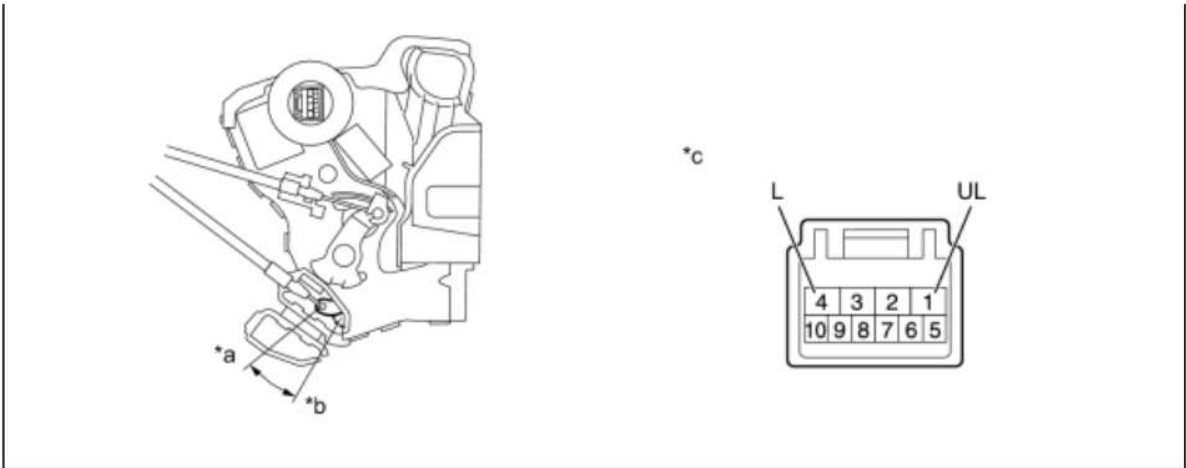
*a	Lock	*b	Unlock
*c	Component without harness connected (Front Door Lock Assembly LH)	-	-

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

2. INSPECT FRONT DOOR LOCK ASSEMBLY RH



Text in Illustration

*a	Unlock	*b	Lock
*c	Component without harness connected (Front Door Lock Assembly RH)	-	-

- (a) Check the door lock motor operation.
- (1) Apply battery voltage to the door lock motor connector 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 front door lock assembly.



Last Modified: 3-27-2012	6.4 A	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000002M7W02RX
Title: DOOR LOCK: FRONT DOOR LOCK: INSTALLATION (2013 FR-S)		

INSTALLATION

HINT:

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

1. INSTALL FRONT DOOR LOCK ASSEMBLY

NOTICE:

Do not allow grease or dust to adhere to the surface of the connector which contacts the door lock wire harness seal.

- (a) Apply MP grease to the sliding parts of the front door lock assembly.
- (b) Insert the front door lock open rod into the front door lock assembly.
- (c) Check that the front door lock open rod is securely connected to the front door lock assembly.
- (d) Install the front door lock assembly with the 3 bolts.

Torque: 6.5 N·m (66 kgf·cm, 58in·lbf)

2. INSTALL FRONT DOOR LOCK CYLINDER ASSEMBLY (for Driver Side) INFO

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

4. INSTALL FRONT DOOR GLASS SUB-ASSEMBLY INFO

5. INSTALL FRONT DOOR WEATHERSTRIP INFO

6. INSTALL FRONT DOOR SERVICE HOLE COVER INFO

7. INSTALL FRONT DOOR TRIM BOARD SUB-ASSEMBLY INFO

8. INSTALL DOOR ARMREST COVER INFO



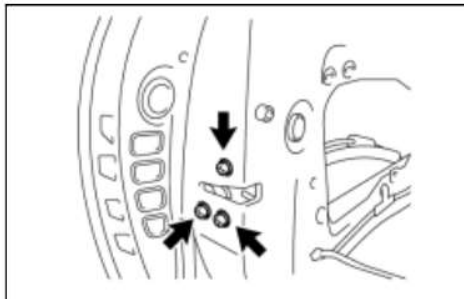
Last Modified: 3-27-2012	6.4 A	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000002M7W02SX
Title: DOOR LOCK: FRONT DOOR LOCK: REMOVAL (2013 FR-S)		

REMOVAL

HINT:

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

1. REMOVE DOOR ARMREST COVER INFO
2. REMOVE FRONT DOOR TRIM BOARD SUB-ASSEMBLY INFO
3. REMOVE FRONT DOOR SERVICE HOLE COVER INFO
4. REMOVE FRONT DOOR WEATHERSTRIP INFO
5. REMOVE FRONT DOOR GLASS SUB-ASSEMBLY INFO
6. REMOVE FRONT DOOR REAR LOWER FRAME SUB-ASSEMBLY INFO
7. REMOVE FRONT DOOR LOCK CYLINDER ASSEMBLY (for Driver Side) INFO
8. REMOVE FRONT DOOR LOCK ASSEMBLY



(a) Remove the 3 bolts.

- (b) Slide the front door lock assembly downward, pull out the front door lock open rod from the outside handle frame, and remove the front door lock assembly and cables as a unit.



Last Modified: 3-27-2012	6.4 A	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM00000593G000X
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: CUSTOMIZE PARAMETERS (2013 FR-S)		

CUSTOMIZE PARAMETERS

1. CUSTOMIZE KEY REMINDER WARNING SYSTEM

(a) Customizing with the Techstream

NOTICE:

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

HINT:

The following items can be customized.

- (1) Connect the Techstream to the DLC3.
- (2) Turn the ignition switch to ON.
- (3) Turn the Techstream on.
- (4) Enter the following menus: Body Electrical / Combination Meter / Utility / Customize / Warning.
- (5) Select the setting by referring to the table below.

Warning

DISPLAY	DEFAULT	FUNCTION	SETTING	RELEVANT ECU
Key Remind Sound	Normal	Function to change cycle of the key reminder warning buzzer.	Normal, Slow or Fast	Combination meter assembly



Last Modified: 3-27-2012	6.4 U	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM0000011WG042X
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: DATA LIST / ACTIVE TEST (2013 FR-S)		

DATA LIST / ACTIVE TEST

1. READ DATA LIST

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.

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.

- Turn the ignition switch off.
- Connect the Techstream to the DLC3.
- Turn the ignition switch to ON.
- Turn the Techstream on.
- Enter the following menus: Body Electrical / Main Body / Data List.
- Read the Data List according to the display on the Techstream.

Main Body

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
IG SW	Ignition switch on signal / OFF or ON	OFF: Ignition switch off ON: Ignition switch ON	-
ACC SW	Ignition switch ACC signal / OFF or ON	OFF: Ignition switch off ON: Ignition switch ACC	-
Key Unlock Warning SW	Unlock warning switch / OFF or ON	OFF: Ignition key is not inserted ON: Ignition key is inserted	-
D Door Courtesy SW	Driver side door courtesy light switch signal / ON or OFF	ON: Driver side door opened OFF: Driver side door closed	-



Last Modified: 3-27-2012	6.4 D	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM0000011G204ZX
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: HOW TO PROCEED WITH TROUBLESHOOTING (2013 FR-S)		

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

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

1.	VEHICLE BROUGHT TO WORKSHOP
-----------	------------------------------------

NEXT



2.	INSPECT BATTERY VOLTAGE
-----------	--------------------------------

(a) Check the battery voltage.

Standard voltage:

11 to 14 V

HINT:

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

NEXT



3.	CHECK COMMUNICATION 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 INFO.

Result

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

B **GO TO CAN COMMUNICATION SYSTEM .**

A
▼

4. PROBLEM SYMPTOMS TABLE

Result

RESULT	PROCEED TO
Fault is not listed on Problem Symptoms Table	A
Fault is listed on 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 .

NEXT
▼

6. REPAIR OR REPLACE

NEXT
▼

7. CONFIRMATION TEST

NEXT ► END



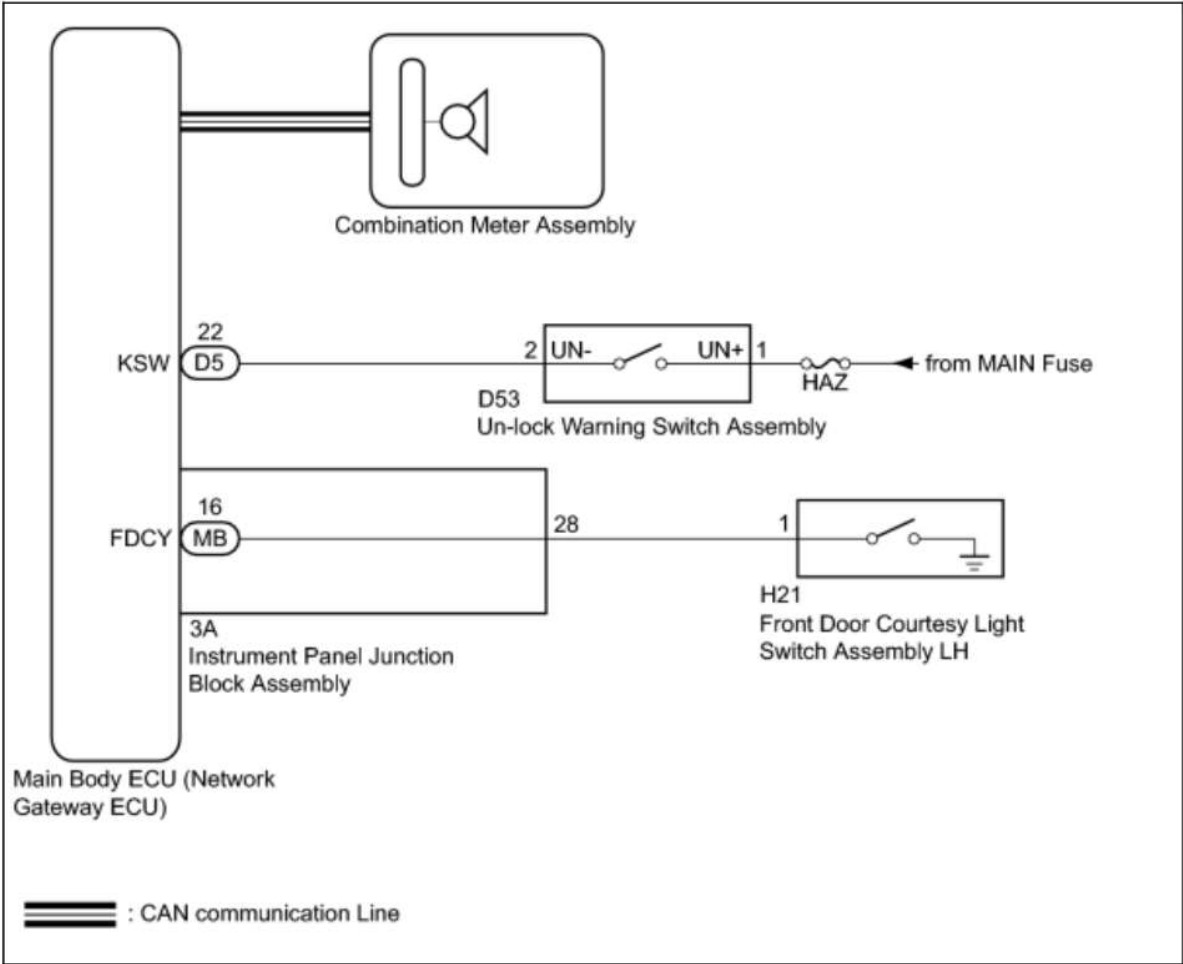
Last Modified: 3-27-2012	6.4 J	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000000ZDE02GX
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: Key Reminder Buzzer does not Sound (2013 FR-S)		

Key Reminder Buzzer does not Sound

DESCRIPTION

The key reminder warning buzzer sounds when the driver side door is opened while the ignition switch is in the LOCK or ACC positions. The key reminder warning buzzer is activated when the main body ECU (network gateway ECU) sends a buzzer sound request signal to the combination meter assembly.

WIRING DIAGRAM



INSPECTION PROCEDURE

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 **How to Proceed with Troubleshooting**. Then conduct the following troubleshooting procedure.

PROCEDURE

1. READ VALUE USING TECHSTREAM (D DOOR COURTESY SW)

- (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
D Door Courtesy SW	Driver side door courtesy light switch signal / ON or OFF	ON: Driver side door opened OFF: Driver side door closed	-

OK:

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

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

OK



2. READ VALUE USING TECHSTREAM (KEY UNLOCK WARNING SW)

- (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 / OFF or ON	OFF: Ignition key is not inserted ON: Ignition key is inserted	-
--------------------------	---	---	---

OK:

When the un-lock warning switch assembly is operated, the display changes as shown in the table.

NG▶INSPECT UN-LOCK WARNING SWITCH ASSEMBLY

OK
▼

3. CHECK COMBINATION METER ASSEMBLY (BUZZER OPERATION)

(a) Remove the key from the key cylinder, turn the light control switch on the headlight dimmer switch assembly to the tail position, and open the driver door.

OK:

The light reminder warning buzzer sounds.

HINT:

The key reminder warning system sounds the buzzer built in to the combination meter for key reminder warnings. This buzzer is also used for the light reminder warning system. Therefore, check the operation of the combination meter buzzer by checking if the buzzer sounds to inform that the lights are still on.

NG▶REPLACE COMBINATION METER ASSEMBLY

OK▶REPLACE MAIN BODY ECU (NETWORK GATEWAY ECU)

4. INSPECT UN-LOCK WARNING SWITCH ASSEMBLY

(a) Remove the un-lock warning switch assembly INFO .

(b) Inspect the un-lock warning switch assembly INFO .

NG▶REPLACE UN-LOCK WARNING SWITCH ASSEMBLY

OK

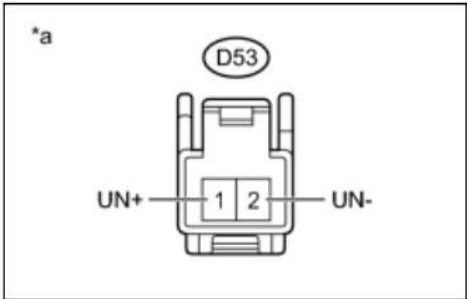


5.

CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - UN-LOCK WARNING SWITCH ASSEMBLY)

- (a) Disconnect the D53 un-lock warning switch assembly connector.
- (b) Disconnect the D5 main body ECU (network gateway ECU) connector.
- (c) Measure the voltage and resistance according to the value(s) in the table below.

Standard Voltage:



TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
D53-1 (UN+) - Body ground	Always	11 to 14 V

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
D53-2 (UN-) - D5-22 (KSW)	Always	Below 1 Ω
D53-2 (UN-) - Body ground	Always	10 k Ω or higher

Text in Illustration

*a	Front view of wire harness connector (to Un-lock Warning Switch Assembly)
----	--

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU (NETWORK GATEWAY ECU)



Last Modified: 3-27-2012	6.4 D	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000001332043X
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: OPERATION CHECK (2013 FR-S)		

OPERATION CHECK

1. CHECK FUNCTION

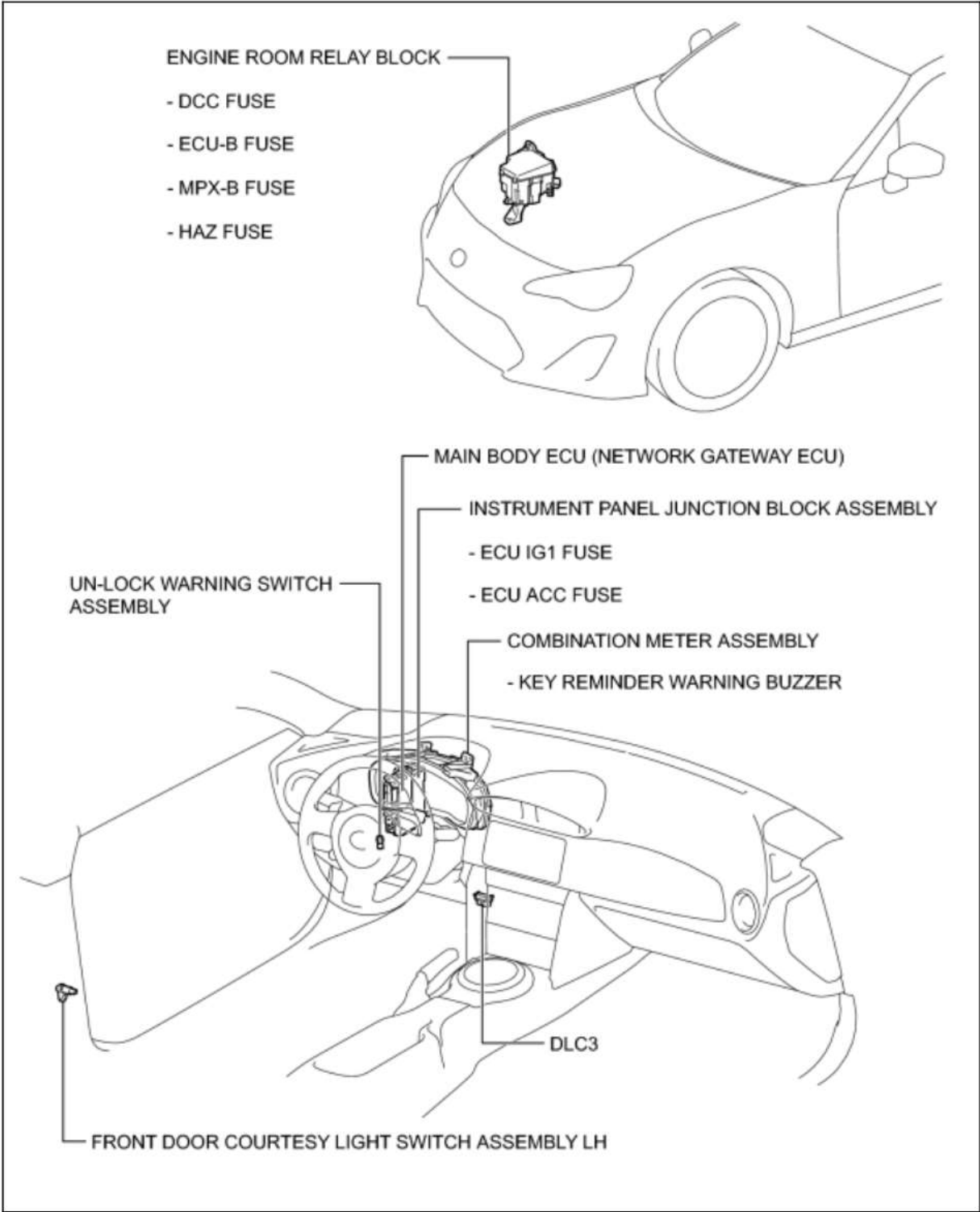
- (a) Check that the key reminder warning buzzer sounds.
 - (1) With the driver side door closed, insert the key into the ignition key cylinder and then turn the key to LOCK or ACC.
 - (2) Check that the buzzer sounds intermittently when the driver side door is open.
- (b) Check that the key reminder warning buzzer stops.
 - (1) Check that the buzzer stops sounding if any of the following operations are 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 the key out from the ignition key cylinder.



Last Modified: 3-27-2012	6.4 R	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM0000037K1000X
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: PARTS LOCATION (2013 FR-S)		

PARTS LOCATION

ILLUSTRATION



Last Modified: 3-27-2012	6.4 T	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM0000011G502GX
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: PROBLEM SYMPTOMS TABLE (2013 FR-S)		

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	Proceed to "Key Reminder Buzzer does not Sound"	INFO



Last Modified: 3-27-2012	6.4 D	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM0000011G603SX
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: SYSTEM DESCRIPTION (2013 FR-S)		

SYSTEM DESCRIPTION

1. KEY REMINDER WARNING SYSTEM DESCRIPTION

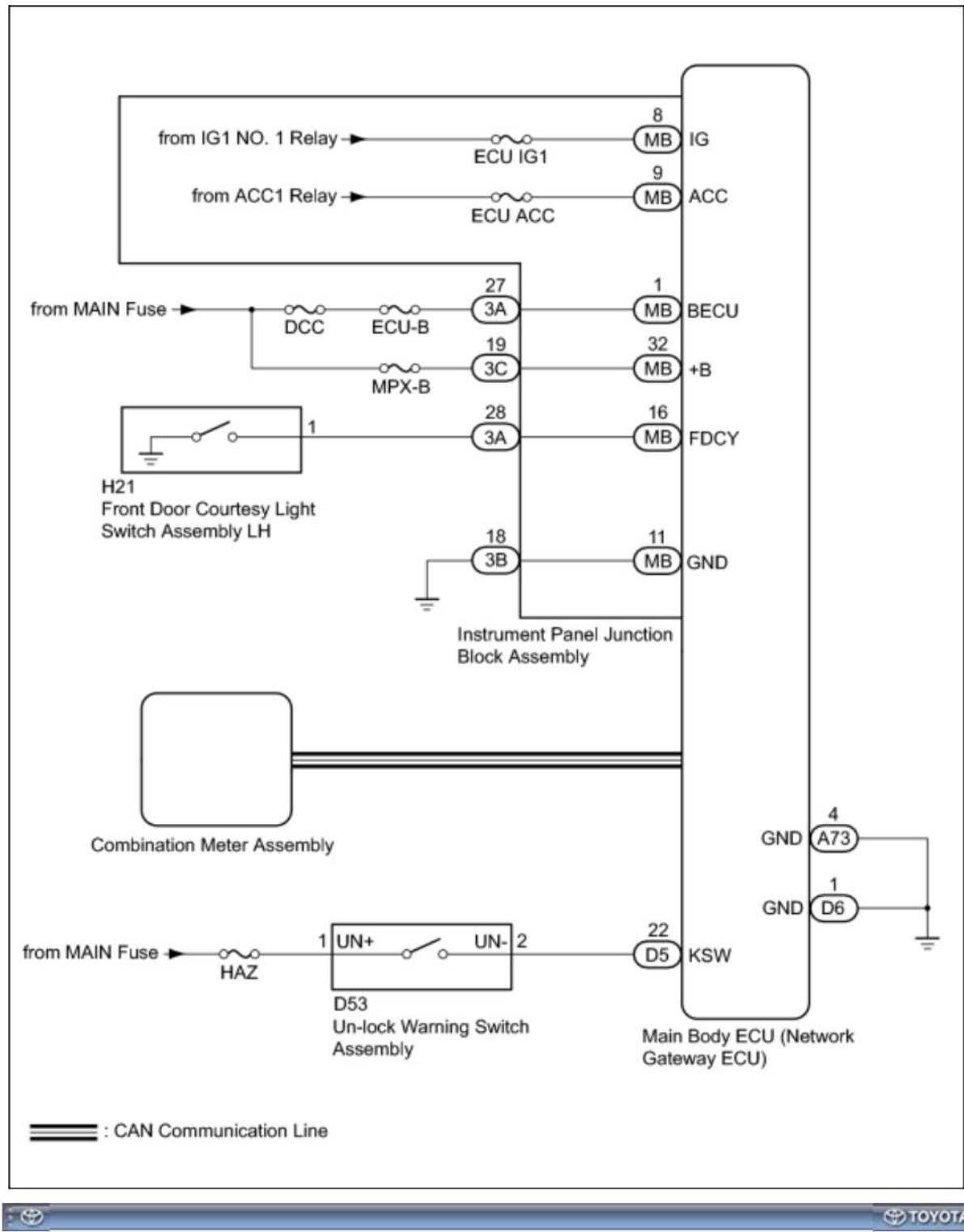
- (a) When the driver side door is opened with the ignition key in the ACC or LOCK position, this system causes the key reminder warning buzzer to sound in order to warn the driver that the ignition key has not been removed.



cardiagn.com

Last Modified: 3-27-2012	6.4 U	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM0000013P003NX
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: SYSTEM DIAGRAM (2013 FR-S)		

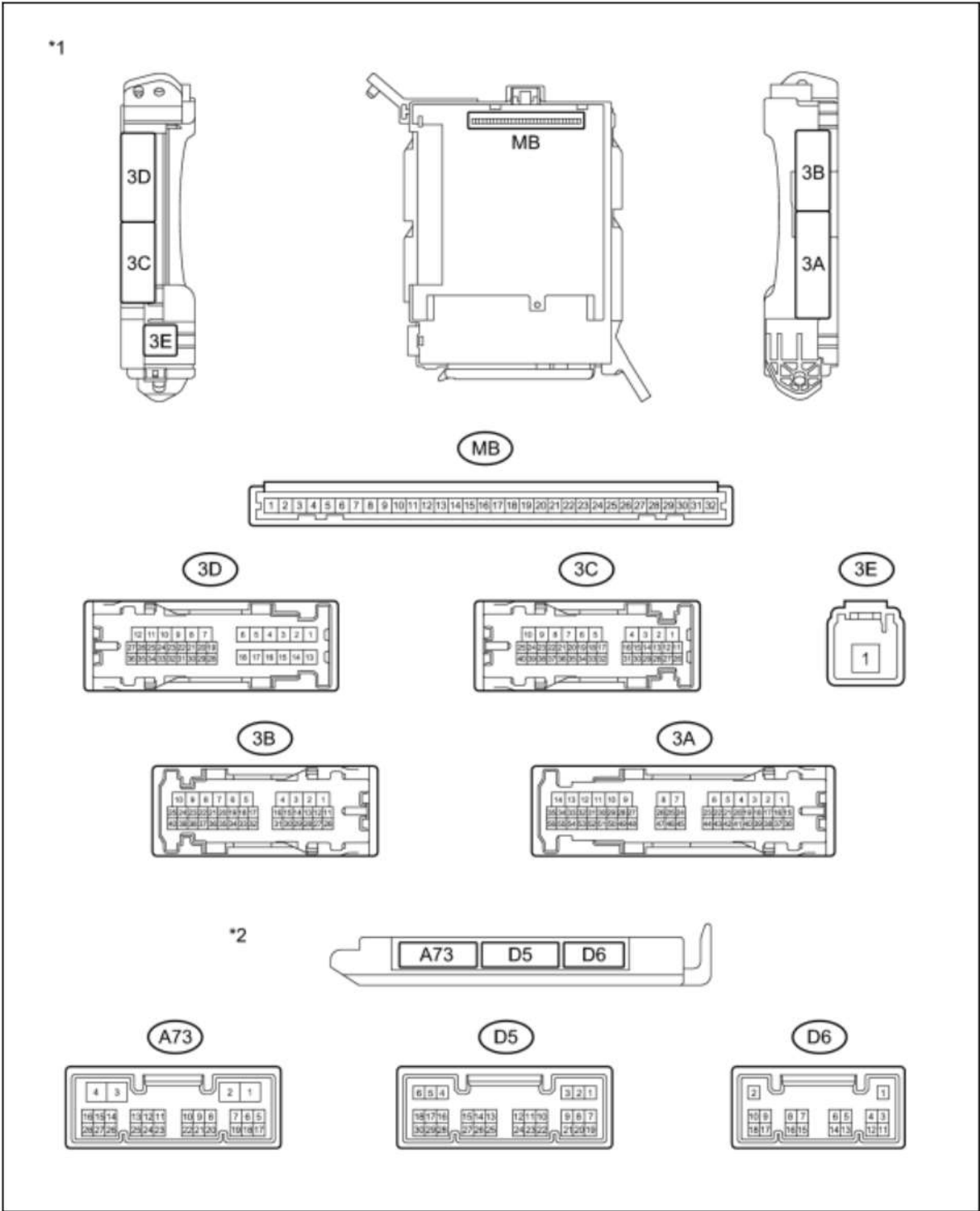
SYSTEM DIAGRAM



Last Modified: 3-27-2012	6.4 U	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM0000011G4045X
Title: DOOR LOCK: KEY REMINDER WARNING SYSTEM: TERMINALS OF ECU (2013 FR-S)		

TERMINALS OF ECU

1. CHECK INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY AND MAIN BODY ECU (NETWORK GATEWAY ECU)



Text in Illustration

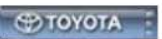
*1	Instrument Panel Junction Block Assembly	*2	Main Body ECU (Network Gateway ECU)
----	--	----	-------------------------------------

- (a) Remove the main body ECU (network gateway ECU) from the instrument panel junction block assembly.
- (b) Disconnect the D5, D6 and A73 main body ECU (network gateway ECU) connectors.
- (c) Measure the voltage and resistance according to the value(s) in the table below.

TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
MB-1 (BECU) - Body ground	None - Body ground	Battery power supply	Always	11 to 14 V
MB-8 (IG) - Body ground	None - Body ground	Ignition switch power supply	Ignition switch ON	11 to 14 V
			Ignition switch off	Below 1 V
MB-9 (ACC) - Body ground	None - Body ground	ACC power supply	Ignition switch ACC	11 to 14 V
			Ignition switch off	Below 1 V
MB-11 (GND) - Body ground	None - Body ground	Ground	Always	Below 1 Ω
MB-32 (+B) - Body ground	None - Body ground	Battery power supply	Always	11 to 14 V
D5-22 (KSW) - Body ground	BR - Body ground	Unlock warning switch input	No Key in ignition key cylinder (off)	Below 1 V
			Key inserted ignition key cylinder (on)	11 to 14 V
D6-1 (GND) - Body ground	B - Body ground	Ground	Always	Below 1 Ω
A73-4 (GND) - Body ground	B-Y - Body ground	Ground	Always	Below 1 Ω

- (d) Reconnect the D5, D6 and A73 main body ECU (network gateway ECU) connectors.
- (e) Install the main body ECU (network gateway ECU) to the instrument panel junction block assembly.
- (f) Measure the voltage according to the value(s) in the table below.

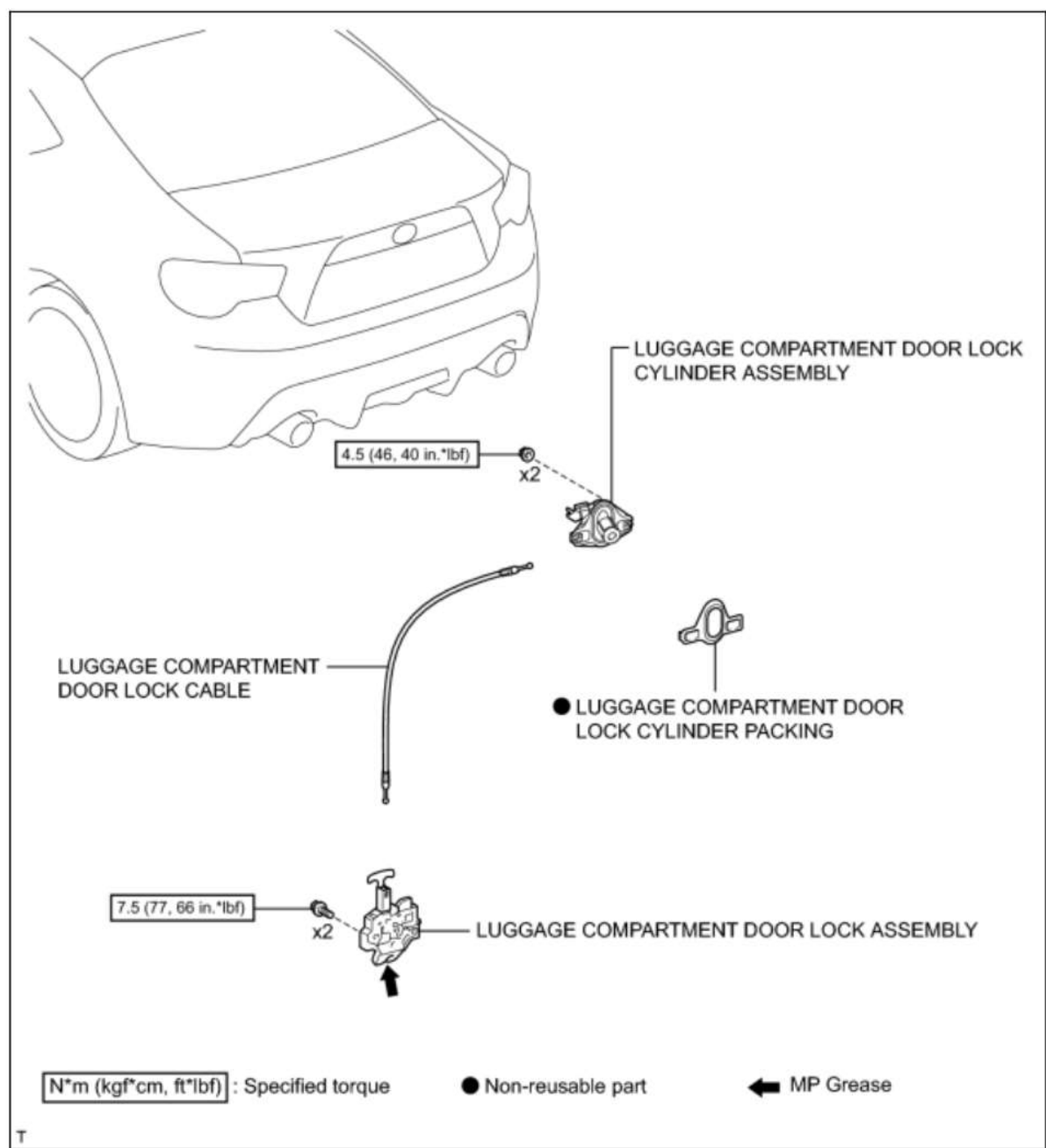
TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
3A-28 - Body ground	V - Body ground	Driver side door courtesy light switch input	Driver side door open	Below 1 V
			Driver side door closed	11 to 14 V



Last Modified: 3-27-2012	6.4 K	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000004FZG004X
Title: DOOR LOCK: LUGGAGE COMPARTMENT DOOR LOCK: COMPONENTS (2013 FR-S)		

COMPONENTS

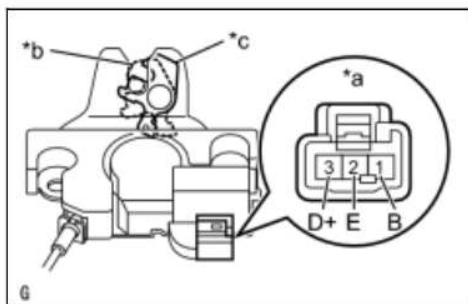
ILLUSTRATION



Last Modified: 3-27-2012	6.4 G	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM0000020BT02DX
Title: DOOR LOCK: LUGGAGE COMPARTMENT DOOR LOCK: INSPECTION (2013 FR-S)		

INSPECTION

1. INSPECT LUGGAGE COMPARTMENT DOOR LOCK ASSEMBLY



(a) Check the operation of the door lock motor.

- (1) Move the door lock to the closed (lock) position.
- (2) Apply battery voltage to the door lock motor and check the operation of the door lock motor.

OK:

MEASUREMENT CONDITION	SPECIFIED CONDITION
Battery positive (+) → 1 (B) Battery negative (-) → 2 (E)	Luggage compartment door lock motor open (unlock) operation

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

(b) Check the 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 (E) - 3 (D+)	Locked	10 kΩ or higher
2 (E) - 3 (D+)	Unlocked	Below 1 Ω

Text in Illustration

*a	Component without harness connected (Luggage Compartment Door Lock Assembly)
*b	Lock
*c	Open

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



Last Modified: 3-27-2012	6.4 A	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000004FZF003X
Title: DOOR LOCK: LUGGAGE COMPARTMENT DOOR LOCK: INSTALLATION (2013 FR-S)		

INSTALLATION

1. INSTALL LUGGAGE COMPARTMENT DOOR LOCK CABLE

- (a) Engage the clamp to install the luggage compartment door lock cable.

2. INSTALL LUGGAGE COMPARTMENT DOOR LOCK CYLINDER PACKING

- (a) Install the new luggage compartment door lock cylinder packing.

NOTICE:

Do not reuse the removed packing. Be sure to install a new luggage compartment door lock cylinder packing to prevent water ingress.

3. INSTALL LUGGAGE COMPARTMENT DOOR LOCK CYLINDER ASSEMBLY

- (a) Connect the luggage compartment door lock cable to the luggage compartment door lock cylinder assembly.
- (b) Install the luggage compartment door lock cylinder assembly with the 2 nuts.

Torque: 4.5 N·m (46 kgf·cm, 40in·lbf)

4. INSTALL LUGGAGE COMPARTMENT DOOR LOCK ASSEMBLY

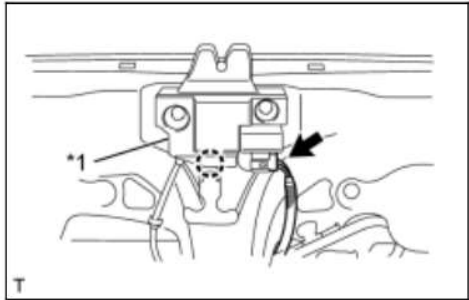
- (a) Install the luggage compartment door lock assembly with the 2 bolts.
- Torque: 7.5 N·m (77 kgf·cm, 66in·lbf)**
- (b) Connect the luggage compartment door lock cable to the luggage compartment door lock assembly.
 - (c) Engage the claw to close the cover.
 - (d) Connect the connector.



Last Modified: 3-27-2012	6.4 A	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000004FZH003X
Title: DOOR LOCK: LUGGAGE COMPARTMENT DOOR LOCK: REMOVAL (2013 FR-S)		

REMOVAL

1. REMOVE LUGGAGE COMPARTMENT DOOR LOCK ASSEMBLY

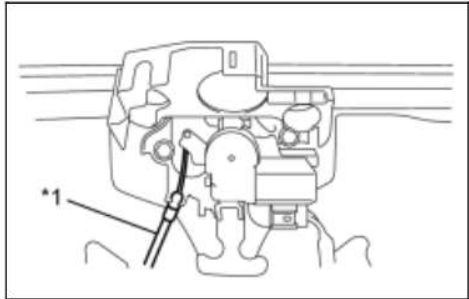


(a) Disconnect the connector.

(b) Disengage the claw and open the cover.

Text in illustration

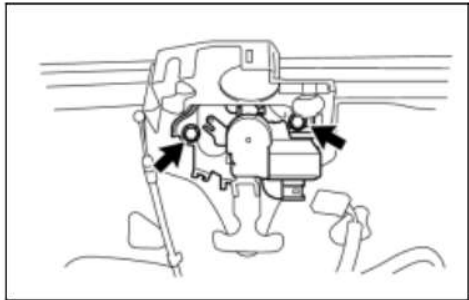
*1	Cover
----	-------



(c) Disconnect the luggage compartment door lock cable.

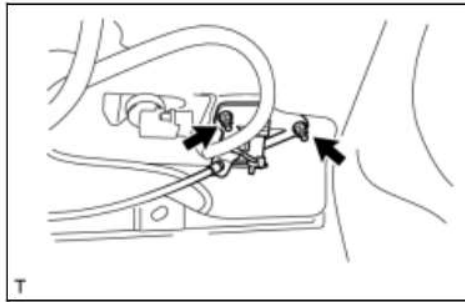
Text in illustration

*1	Luggage Compartment Door Lock Cable
----	-------------------------------------

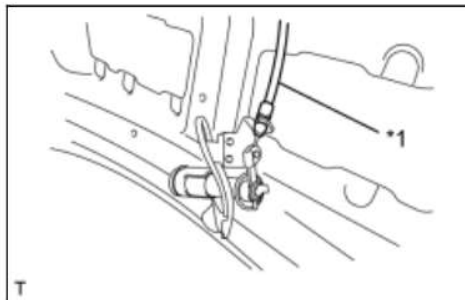


(d) Remove the 2 bolts and the luggage compartment door lock assembly.

2. REMOVE LUGGAGE COMPARTMENT DOOR LOCK CYLINDER ASSEMBLY



- (a) Remove the 2 nuts and the luggage compartment door lock cylinder assembly.

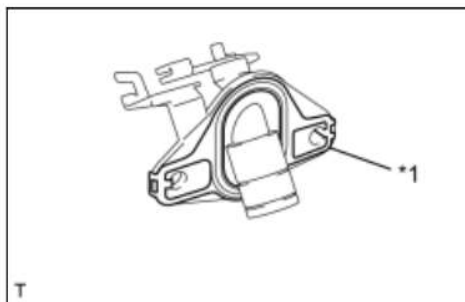


- (b) Disconnect the luggage compartment door lock cable.

Text in illustration

*1	Luggage Compartment Door Lock Cable
----	-------------------------------------

3. REMOVE LUGGAGE COMPARTMENT DOOR LOCK CYLINDER PACKING



- (a) Remove the luggage compartment door lock cylinder packing.

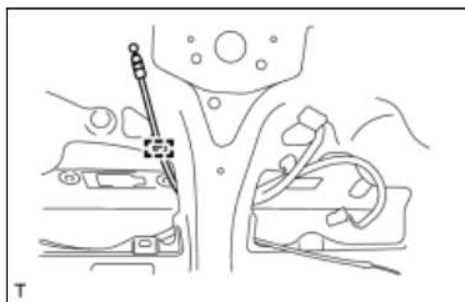
NOTICE:

Do not reuse the removed packing. Be sure to install a new luggage compartment door lock cylinder packing to prevent water ingress.

Text in illustration

*1	Luggage Compartment Door Lock Cylinder Packing
----	--

4. REMOVE LUGGAGE COMPARTMENT DOOR LOCK CABLE



- (a) Disengage the clamp and remove the luggage compartment door lock cable.

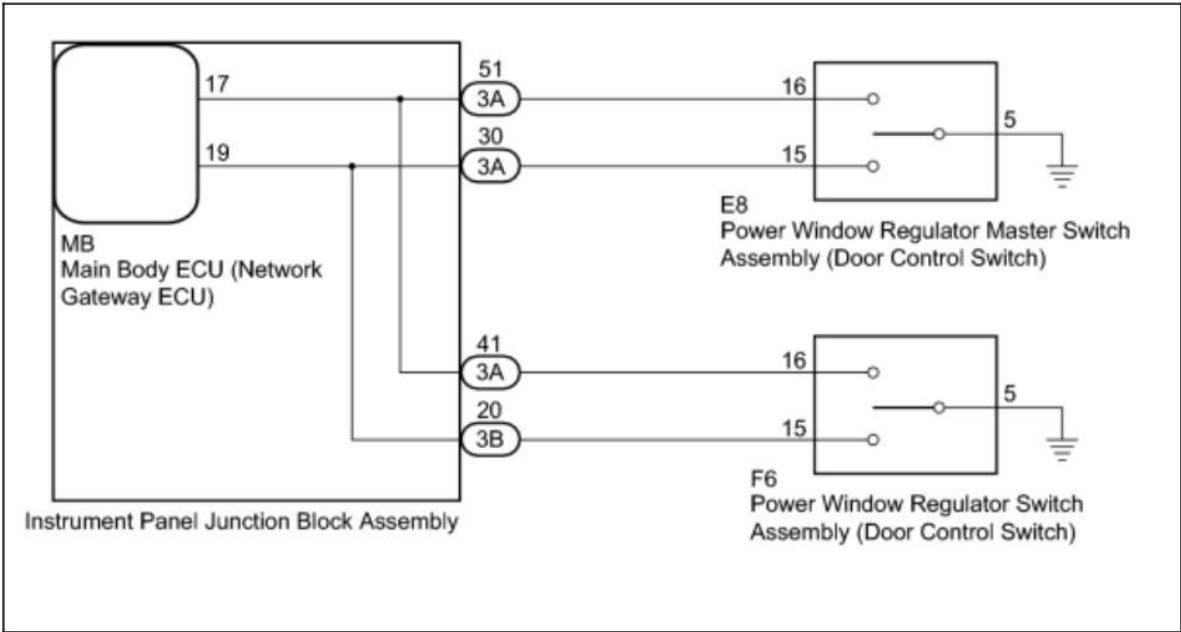
Last Modified: 3-27-2012	6.4 J	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM00000128S03EX
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: All Doors LOCK/UNLOCK Functions do not Operate Via Door Control Switch (2013 FR-S)		

All Doors LOCK/UNLOCK Functions do not Operate Via Door Control Switch

DESCRIPTION

The main body ECU (network gateway ECU) receives switch signals from the door control switch, activates the door lock motor on each door accordingly.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	CHECK DOOR LOCK OPERATION
----	---------------------------

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

Result

RESULT	PROCEED TO
Doors cannot be locked through power window regulator master switch assembly	A
Doors cannot be locked through power window regulator switch assembly	B

B **READ VALUE USING TECHSTREAM (DOOR LOCK SW-LOCK AND DOOR LOCK SW-UNLOCK)**

A

2. READ VALUE USING TECHSTREAM (DOOR LOCK SW-LOCK AND DOOR LOCK SW-UNLOCK)

- (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
Door Lock SW-Lock	Door control switch (power window regulator master switch assembly) lock signal / OFF or ON	OFF: OFF: Lock side of door control switch (power window regulator master switch assembly) not pushed ON: Lock side of door control switch (power window regulator master switch assembly) pushed	-
Door Lock SW-Unlock	Door control switch (power window regulator master switch assembly) unlock signal / OFF or ON	OFF: Unlock side of door control switch (power window regulator master switch assembly) not pushed ON: Unlock side of door control switch (power window regulator master switch assembly) pushed	-

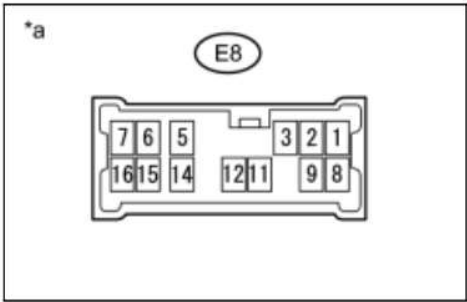
OK:

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

NG  **INSPECT POWER WINDOW REGULATOR MASTER SWITCH ASSEMBLY**

OK  **REPLACE MAIN BODY ECU (NETWORK GATEWAY ECU)**

3. INSPECT POWER WINDOW REGULATOR MASTER SWITCH ASSEMBLY



(a) Remove the power window regulator master switch assembly INFO.

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

Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
E8-16 - E8-5	Lock switch pushed	Below 1 Ω
	off	10 k Ω or higher
E8-15 - E8-5	Unlock switch pushed	Below 1 Ω
	off	10 k Ω or higher

Text in Illustration

*a	Component without harness connected (Power Window Regulator Master Switch Assembly (Door Control Switch))
----	--

NG ▶ REPLACE POWER WINDOW REGULATOR MASTER SWITCH ASSEMBLY

OK
▼

4.	CHECK HARNESS AND CONNECTOR (POWER WINDOW MASTER SWITCH - JUNCTION BLOCK AND BODY GROUND)
----	--

- (a) Disconnect the 3A instrument panel junction block assembly connector.
- (b) Disconnect the E8 power window regulator master switch assembly (door control switch) connector.
- (c) Measure the resistance according to the value(s) in the table below.
- Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3A-51 - E8-16	Always	Below 1 Ω

3A-30 - E8-15	Always	Below 1 Ω
E8-5 - Body ground	Always	Below 1 Ω
3A-51 or E8-16 - Body ground	Always	10 k Ω or higher
3A-30 or E8-15 - Body ground	Always	10 k Ω or higher

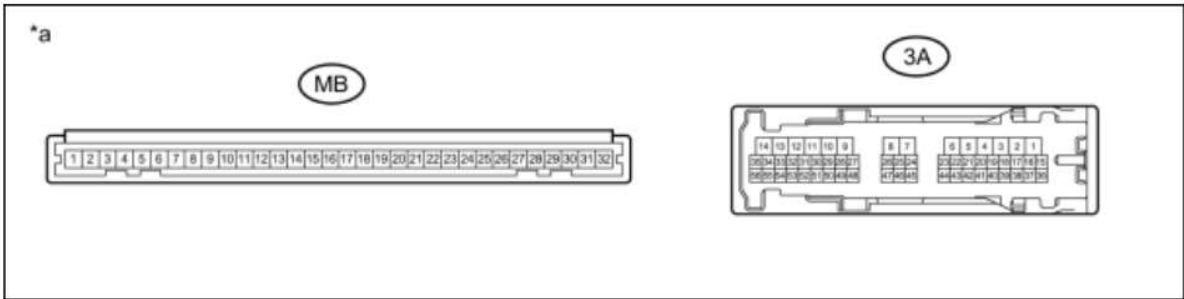
NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK


5.

INSPECT INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY

- (a) Remove the instrument panel junction block assembly  .
- (b) Remove the main body ECU (network gateway ECU) from the instrument panel junction block assembly.
- (c) Measure the resistance according to the value(s) in the table below.



Text in Illustration

*a	Component without harness connected (Instrument Panel Junction Block Assembly)	-	-
----	---	---	---

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
MB-17 - 3A-51	Always	Below 1 Ω
MB-19 - 3A-30	Always	Below 1 Ω

NG  **REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY**

OK ► **REPLACE MAIN BODY ECU (NETWORK GATEWAY ECU)**

6.	READ VALUE USING TECHSTREAM (DOOR LOCK SW-LOCK AND DOOR LOCK SW-UNLOCK)
-----------	--

- (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
Door Lock SW-Lock	Door control switch (power window regulator switch assembly) lock signal / OFF or ON	OFF: OFF: Lock side of door control switch (power window regulator switch assembly) not pushed ON: Lock side of door control switch (power window regulator switch assembly) pushed	-
Door Lock SW-Unlock	Door control switch (power window regulator switch assembly) unlock signal / OFF or ON	OFF: Unlock side of door control switch (power window regulator switch assembly) not pushed ON: Unlock side of door control switch (power window regulator switch assembly) pushed	-

OK:

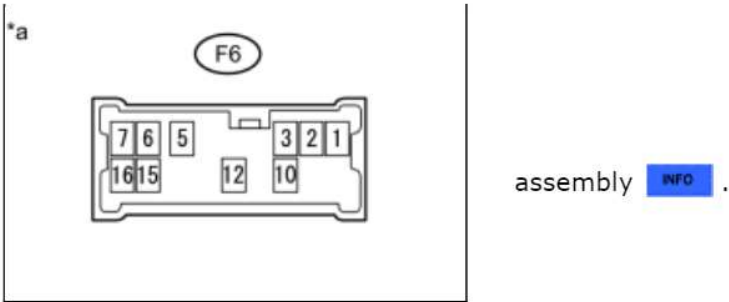
The Techstream indicates ON or OFF according to the switch operation shown in the table above.

NG ► **INSPECT POWER WINDOW REGULATOR SWITCH ASSEMBLY**

OK ► **REPLACE MAIN BODY ECU (NETWORK GATEWAY ECU)**

7.	INSPECT POWER WINDOW REGULATOR SWITCH ASSEMBLY
-----------	---

- (a) Remove the power window regulator switch



F6-5 - Body ground	Always	Below 1 Ω
3A-41 or F6-16 - Body ground	Always	10 k Ω or higher
3B-20 or F6-15 - Body ground	Always	10 k Ω or higher

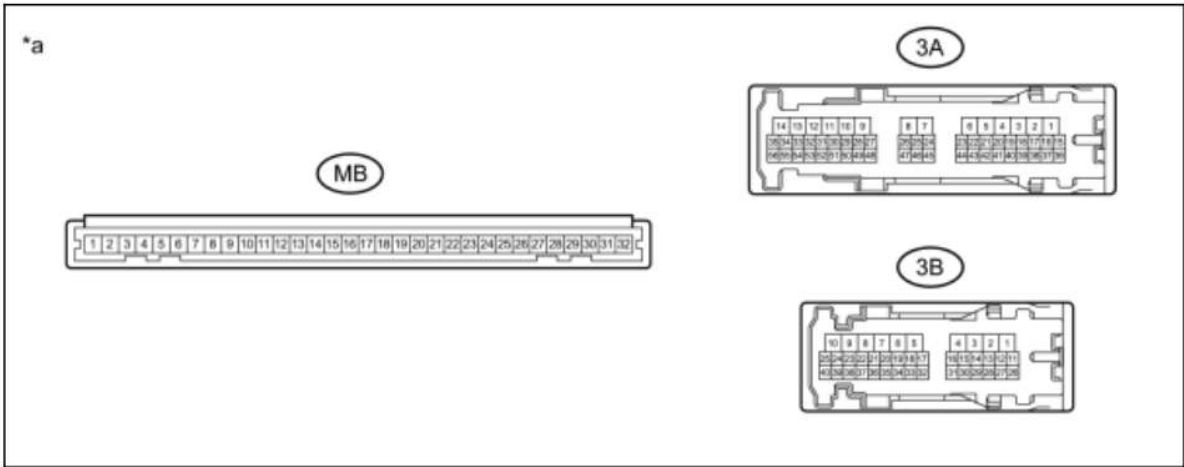
REPAIR OR REPLACE HARNESS OR
NG  **CONNECTOR**

OK


9.

INSPECT INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY

- (a) Remove the instrument panel junction block assembly  .
- (b) Remove the main body ECU (network gateway ECU) from the instrument panel junction block assembly.
- (c) Measure the resistance according to the value(s) in the table below.



Text in Illustration

*a	Component without harness connected (Instrument Panel Junction Block Assembly)	-	-
----	---	---	---

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
MB-17 - 3A-41	Always	Below 1 Ω
MB-19 - 3B-20	Always	Below 1 Ω

REPLACE INSTRUMENT PANEL JUNCTION

NG ► **BLOCK ASSEMBLY**

OK ► **REPLACE MAIN BODY ECU (NETWORK GATEWAY ECU)**



Last Modified: 3-27-2012	6.4 U	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000000TNZ091X
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: DATA LIST / ACTIVE TEST (2013 FR-S)		

DATA LIST / ACTIVE TEST

1. DATA LIST

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.

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.

- Connect the Techstream to the DLC3.
- Turn the ignition switch to ON.
- Turn the Techstream on.
- Enter the following menus:
Body Electrical / Main Body / Data List.
- Read the Data List according to the display on the Techstream.

Main Body

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Open Door Warning	Open door warning / OFF or ON	Customized setting displayed	-
D Door Courtesy SW	Driver side door courtesy light switch signal / ON or OFF	ON: Driver side door opened OFF: Driver side door closed	-
Door Lock SW-Lock	Door control switch (power window regulator master switch assembly or power window regulator switch assembly) lock signal / OFF or ON	OFF: Lock side of door control switch (power window regulator master switch assembly or power window regulator switch assembly) not pushed ON: Lock side of door control switch (power window regulator master switch assembly or power window regulator switch assembly) pushed	-
Door Lock SW-Unlock	Door control switch (power window regulator master switch assembly or power window regulator switch assembly) unlock signal / OFF or ON	OFF: Unlock side of door control switch (power window regulator master switch assembly or power window regulator switch assembly) not pushed ON: Unlock side of door control	-

	ON	switch (power window regulator master switch assembly or power window regulator switch assembly) pushed	
P Door Courtesy SW	Passenger side door courtesy light switch signal / ON or OFF	ON: Passenger side door opened OFF: Passenger side door closed	-
Luggage Courtesy SW	Luggage compartment door courtesy switch signal / OFF or ON	OFF: Luggage compartment door closed ON: Luggage compartment door opened	-
Back Door Open	Luggage compartment door lock / Prohibit or Permit	Prohibit: Luggage compartment door locked Permit: Luggage compartment door unlocked	-
Trunk Lock/Unlock SW	Status of the luggage compartment door lock/unlock switch /OFF or ON	OFF: Luggage compartment door key cylinder not turned to unlock position ON: Luggage compartment door key cylinder turned to unlock position	-
Back Door Open Handle SW	Back door opener switch / OFF or ON	OFF: Back door opener switch not pushed ON: Back door opener switch pushed	-
IG SW	Ignition switch status / OFF or ON	OFF: Ignition switch off ON: Ignition switch to ON	-
ACC SW	Ignition switch status / OFF or ON	OFF: Ignition switch off ON: Ignition switch on (ACC)	-
Key Unlock Warning SW	Unlock warning switch signal / OFF or ON	OFF: No key is in ignition key cylinder ON: Key is in ignition key cylinder	-
Front Passenger Unlock	Status of passenger side door unlock / OFF or ON	OFF: Passenger side door locked ON: Passenger side door unlocked	-
Door Lock Output	Status of all doors lock signal output / OFF or ON	OFF: All doors lock operation is not performed ON: All doors lock operation is performed	-
All Unlock	Status of all doors unlock signal output / OFF or ON	OFF: All doors unlock operation is not performed ON: All doors unlock operation is performed	-
Driver Unlock	Status of driver side door unlock / OFF or ON	OFF: Driver side door locked ON: Driver side door unlocked	-
Rear Gate/Trunk Output	Luggage compartment door unlock signal output / OFF or ON	OFF: Luggage compartment door open operation is not performed ON: Luggage compartment door open operation is performed	-

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) 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	OFF / Unlock / Lock	-
D-Door Unlock	Driver door lock motor	OFF / ON	-
Trunk and Back-Door Open	Back door lock motor	OFF / ON	-
Door Open/Close State	Main body ECU (network gateway ECU)	OFF / ON	-



Last Modified: 3-27-2012	6.4 D	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000000TNQ03UX
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: HOW TO PROCEED WITH TROUBLESHOOTING (2013 FR-S)		

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

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

1.	VEHICLE BROUGHT TO WORKSHOP
-----------	------------------------------------

NEXT



2.	INSPECT BATTERY VOLTAGE
-----------	--------------------------------

Standard voltage:

11 to 14 V

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

NEXT



3.	PROBLEM SYMPTOMS TABLE
-----------	-------------------------------

(a) Refer to Problem Symptoms Table [INFO](#) .

Result

RESULT	PROCEED TO
Fault is not listed in Problem Symptoms Table	A
Fault is listed in Problem Symptoms Table	B

B Go to step 5



4.	OVERALL ANALYSIS AND TROUBLESHOOTING*
-----------	--

- (a) Terminals of ECU INFO .
- (b) Operation check INFO .
- (c) Data List/Active Test INFO .

NEXT



5.	ADJUST, REPAIR OR REPLACE
-----------	----------------------------------

NEXT



6.	CONFIRMATION TEST
-----------	--------------------------

NEXT **END**



cardiagn.com

Last Modified: 3-27-2012	6.4 D	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000002T6K04FX
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: OPERATION CHECK (2013 FR-S)		

OPERATION CHECK

1. CHECK POWER DOOR LOCK OPERATION

NOTICE:

The operation check below is based on the noncustomized initial condition of the vehicle.

- (a) Check the basic function.
 - (1) Check that all doors lock when the door lock control switch (for manual operation) is turned to lock and all doors unlock when turned to unlock.
- (b) Check the key lock-in prevention function.

NOTICE:

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

- (1) Turn the ignition switch to ON or ACC.
- (2) With the driver door open, check that all doors unlock immediately after the lock side of the door control switch (for manual operation) is pressed.
- (c) Check the security function of the door lock control system.
 - (1) Close all doors and leave the driver door window open so that the door lock knob can be operated from outside the vehicle. (Step 1)
 - (2) Starting from Step 1, with the key outside the vehicle, close and lock the driver door using wireless door lock operation. Then, check that the doors do not unlock when the unlock side of the door control switch (for manual operation) is pressed from outside the vehicle.

HINT:

Check that the security function of the door lock control system is canceled under the following conditions:

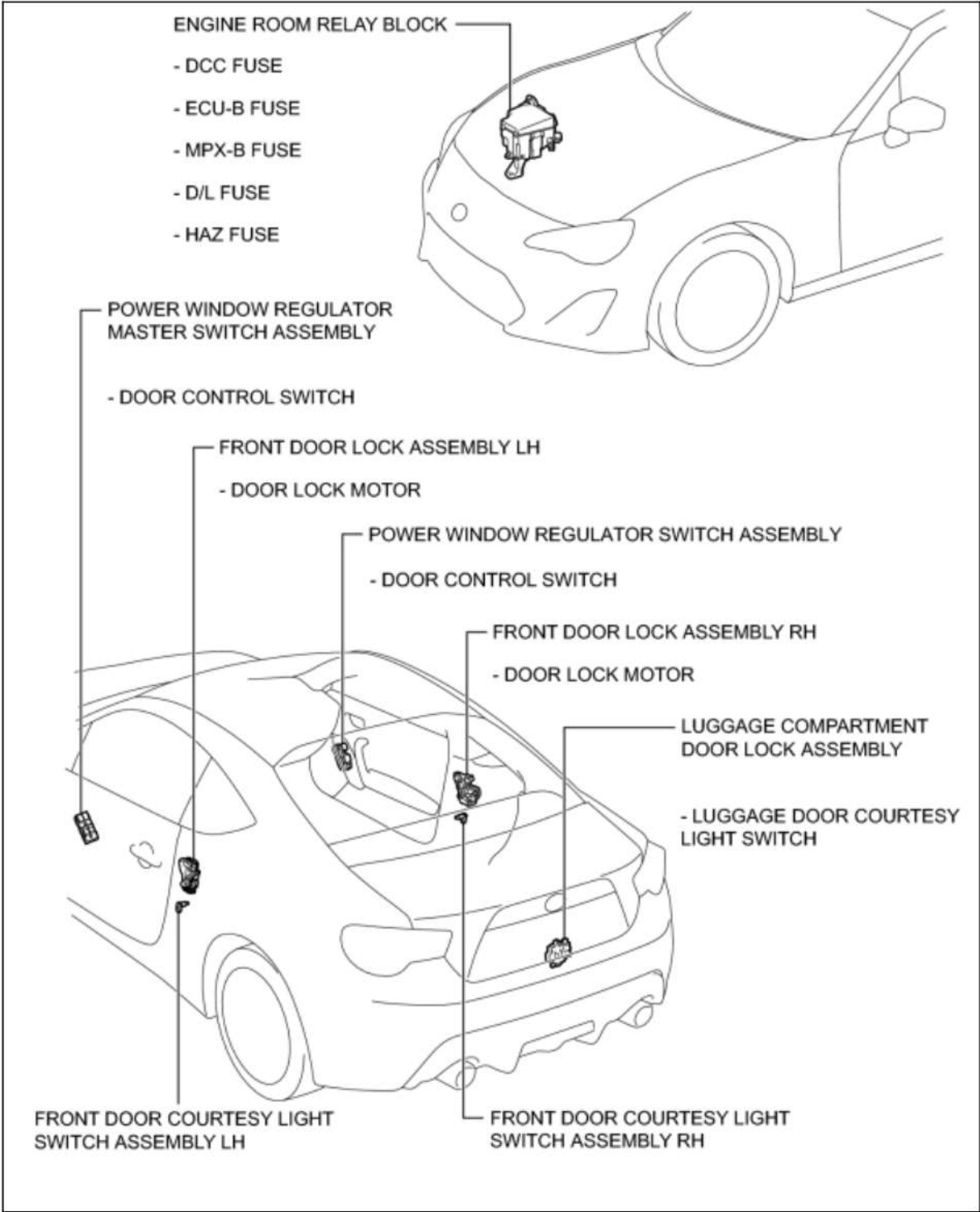
- Turn the ignition switch to ON.
- The doors are unlocked by a wireless operation.



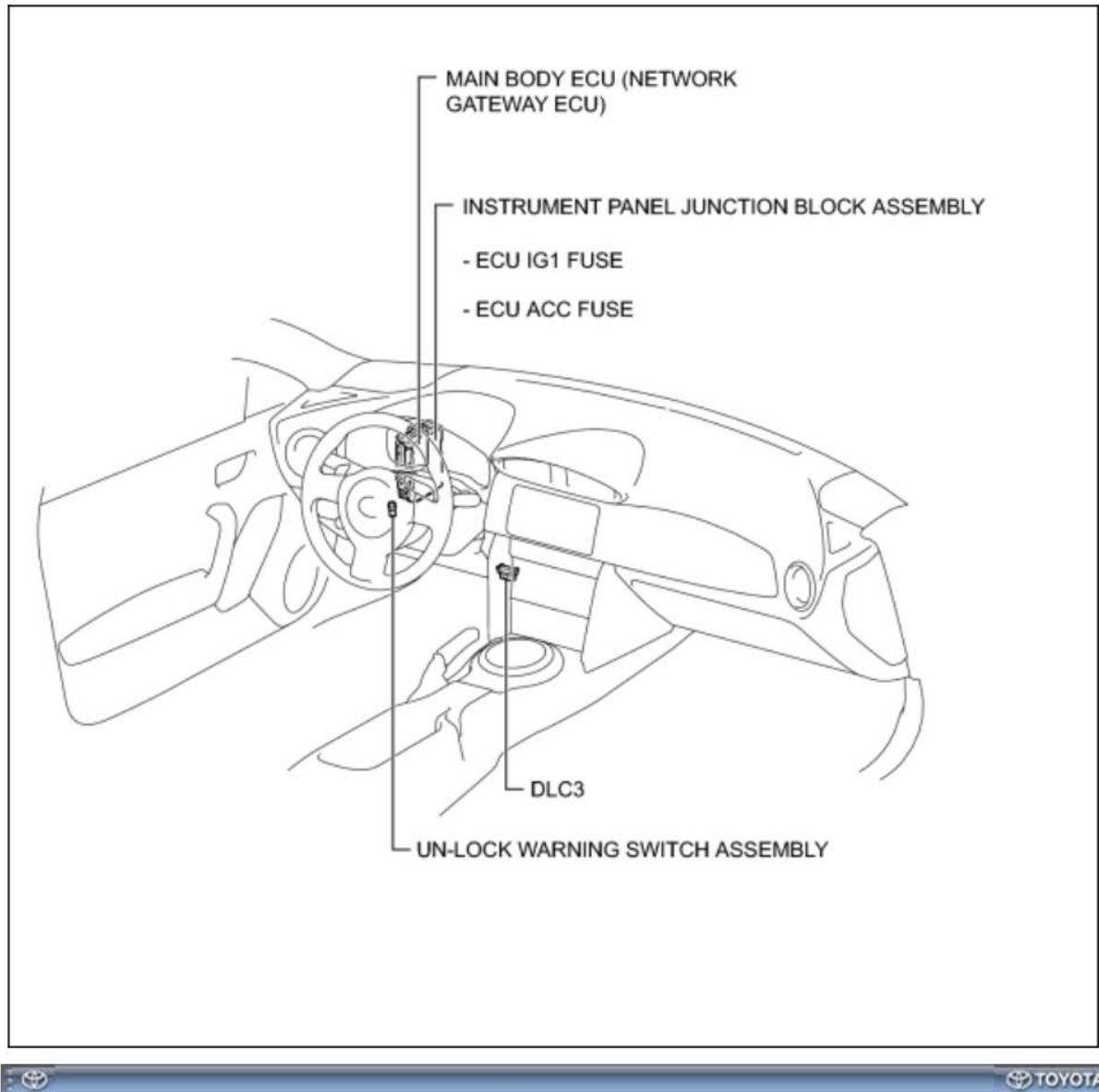
Last Modified: 3-27-2012	6.4 R	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM0000026V5019X
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: PARTS LOCATION (2013 FR-S)		

PARTS LOCATION

ILLUSTRATION



ILLUSTRATION



Last Modified: 3-27-2012	6.4 T	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000000TNU065X
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: PROBLEM SYMPTOMS TABLE (2013 FR-S)		

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.

Power Door Lock Control System

SYMPTOM	SUSPECTED AREA	SEE PAGE
All Doors LOCK/UNLOCK Functions do not Operate Via Power Window Regulator Master Switch Assembly	Power window regulator master switch assembly	INFO
	Main body ECU (network gateway ECU)	-
	Instrument panel junction block assembly	-
	Wire harness or connector	-
All Doors LOCK/UNLOCK Functions do not Operate Via Power Window Regulator Switch Assembly	Power window regulator switch assembly	INFO
	Main body ECU (network gateway ECU)	-
	Instrument panel junction block assembly	-
	Wire harness or connector	-
Only Driver Door LOCK/UNLOCK Functions do not Operate	Front door lock assembly LH	INFO
	Main body ECU (network gateway ECU)	-
	Instrument panel junction block assembly	-
	Wire harness or connector	-
Only Passenger Door LOCK/UNLOCK Functions do not Operate	Front door lock assembly RH	INFO
	Main body ECU (network gateway ECU)	-
	Instrument panel junction block assembly	-
	Wire harness or connector	-



cardiagn.com

Last Modified: 3-27-2012	6.4 D	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000000TNV03PX
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: SYSTEM DESCRIPTION (2013 FR-S)		

SYSTEM DESCRIPTION

1. POWER DOOR LOCK CONTROL SYSTEM DESCRIPTION

(a) The power door lock system locks/unlocks all the doors.

The main body ECU (network gateway ECU) receives lock/unlock request signals from a door control switch. Then, the main body ECU (network gateway ECU) sends these request signals to the door lock motors in each door to lock/unlock each door in response to the inputs.

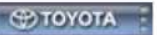
2. FUNCTION OF MAIN COMPONENTS

COMPONENTS	FUNCTION
Power window regulator master switch assembly Door control switch	The door control switch on the power window regulator master switch assembly locks/unlocks all doors.
Power window regulator switch assembly Door control switch	The door control switch on the power window regulator switch assembly locks/unlocks all doors.
Door courtesy light switch assembly	- Placed on each door. - Detects door status (open or closed) and outputs a signal to main body ECU (network gateway ECU). - Turns on when door is opened and turns off when door is closed.
Front door Lock assembly LH Front door Lock assembly RH	The built-in motor locks/unlocks the door.
Luggage compartment door lock assembly	- Built-in motor unlatches door latch. - Built-in courtesy switch detects luggage compartment door status (open or closed) and outputs a signal to main body ECU (network gateway ECU). This switch turns on when luggage compartment door is opened and turns off when luggage compartment door is closed

3. SYSTEM FUNCTION

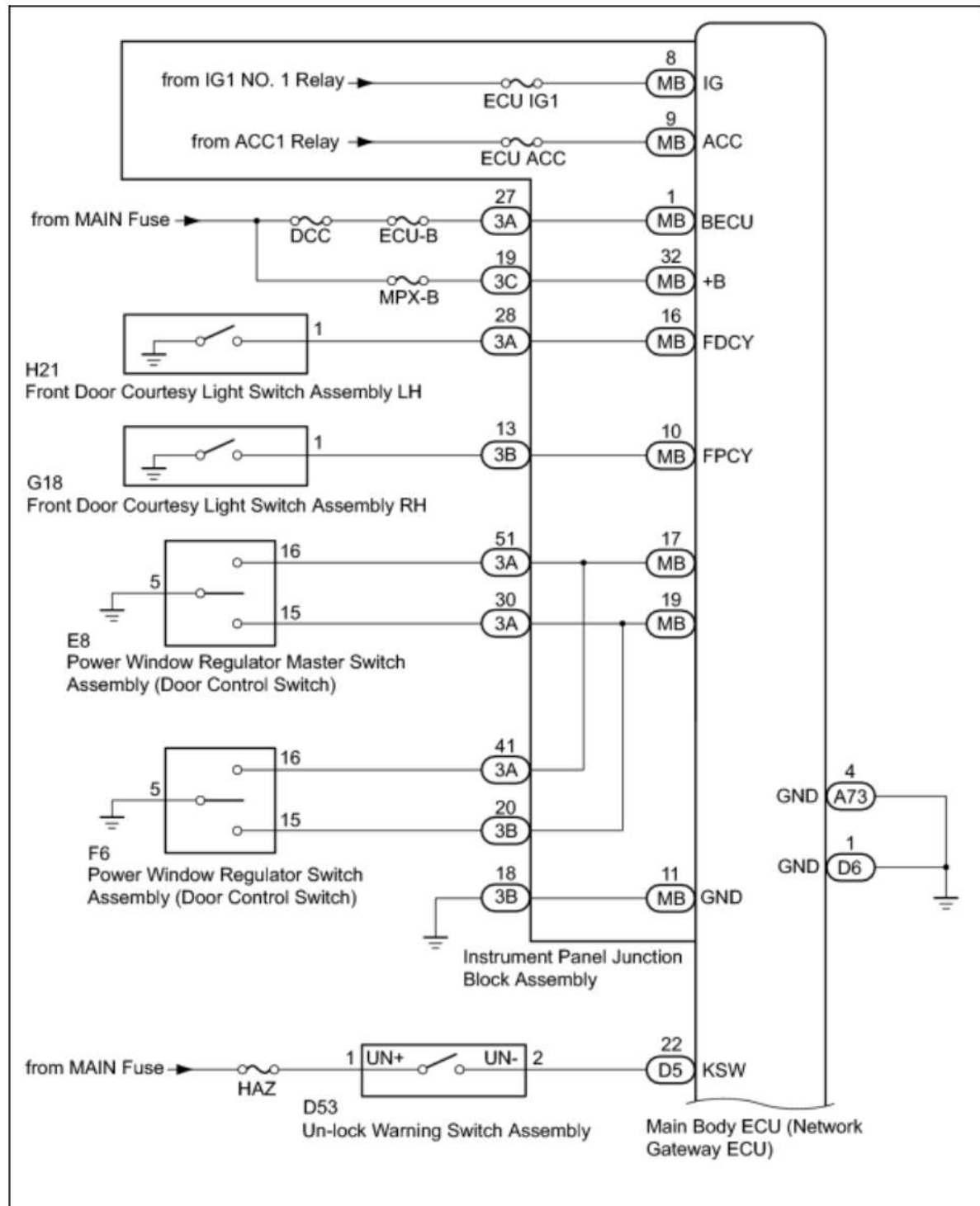
(a) This system is controlled by the main body ECU (network gateway ECU). The main body ECU (network gateway ECU) outputs signals to each door lock motor. The power door lock control system has the following functions:

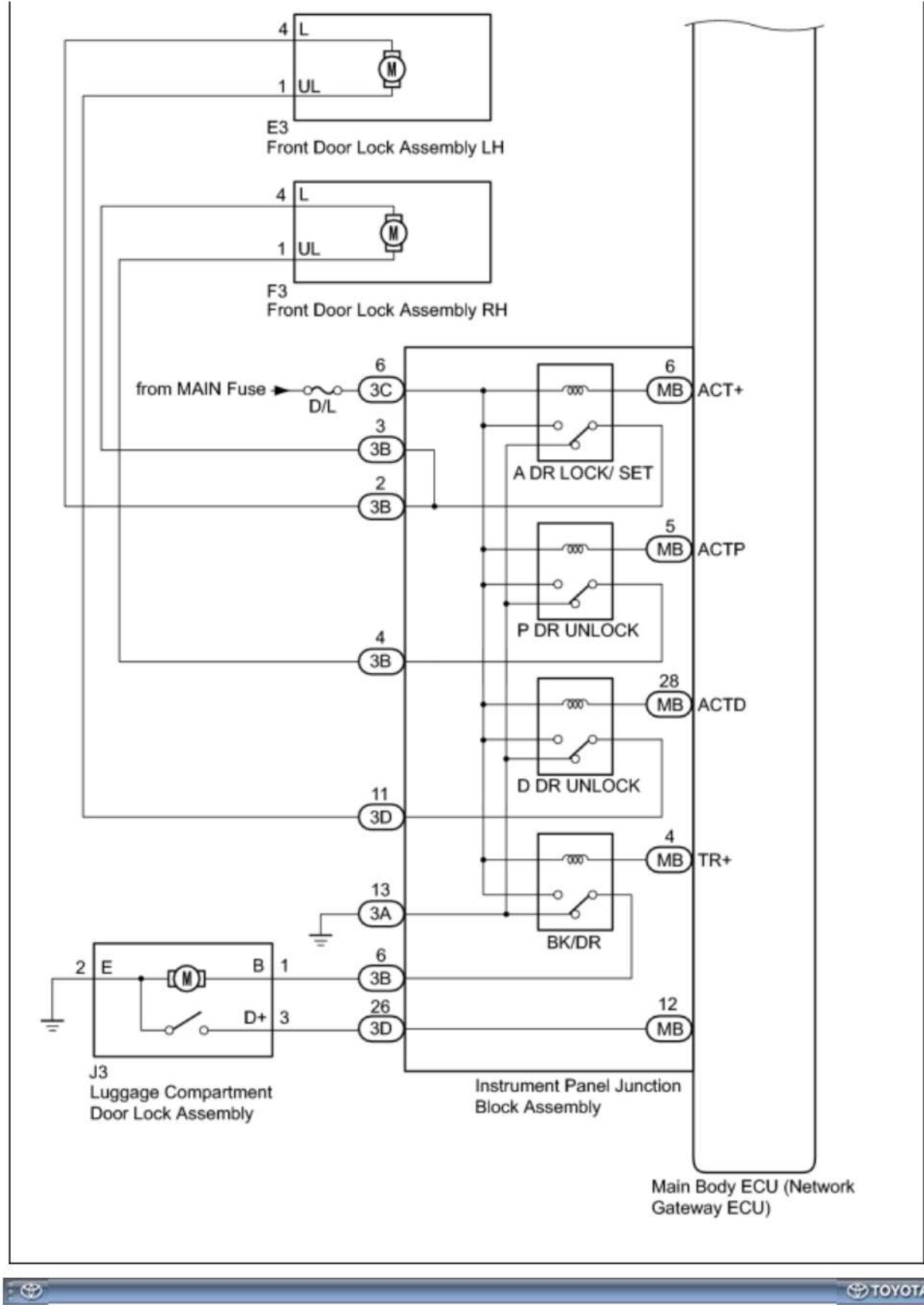
FUNCTION	OUTLINE
Manual lock and unlock function	This function can lock or unlock all doors by the door control switch operation.
Key lock-in prevention function	When the door lock operation is performed with the ignition key in the ignition key cylinder, door will be locked once and immediately unlocked.
Manual unlock prohibition function	When the condition below is met, unlocking the vehicle using the door control switch will be prohibited: • The doors are locked using a wireless key operation with all doors closed.



Last Modified: 3-27-2012	6.4 U	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000001XM401JX
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: SYSTEM DIAGRAM (2013 FR-S)		

SYSTEM DIAGRAM



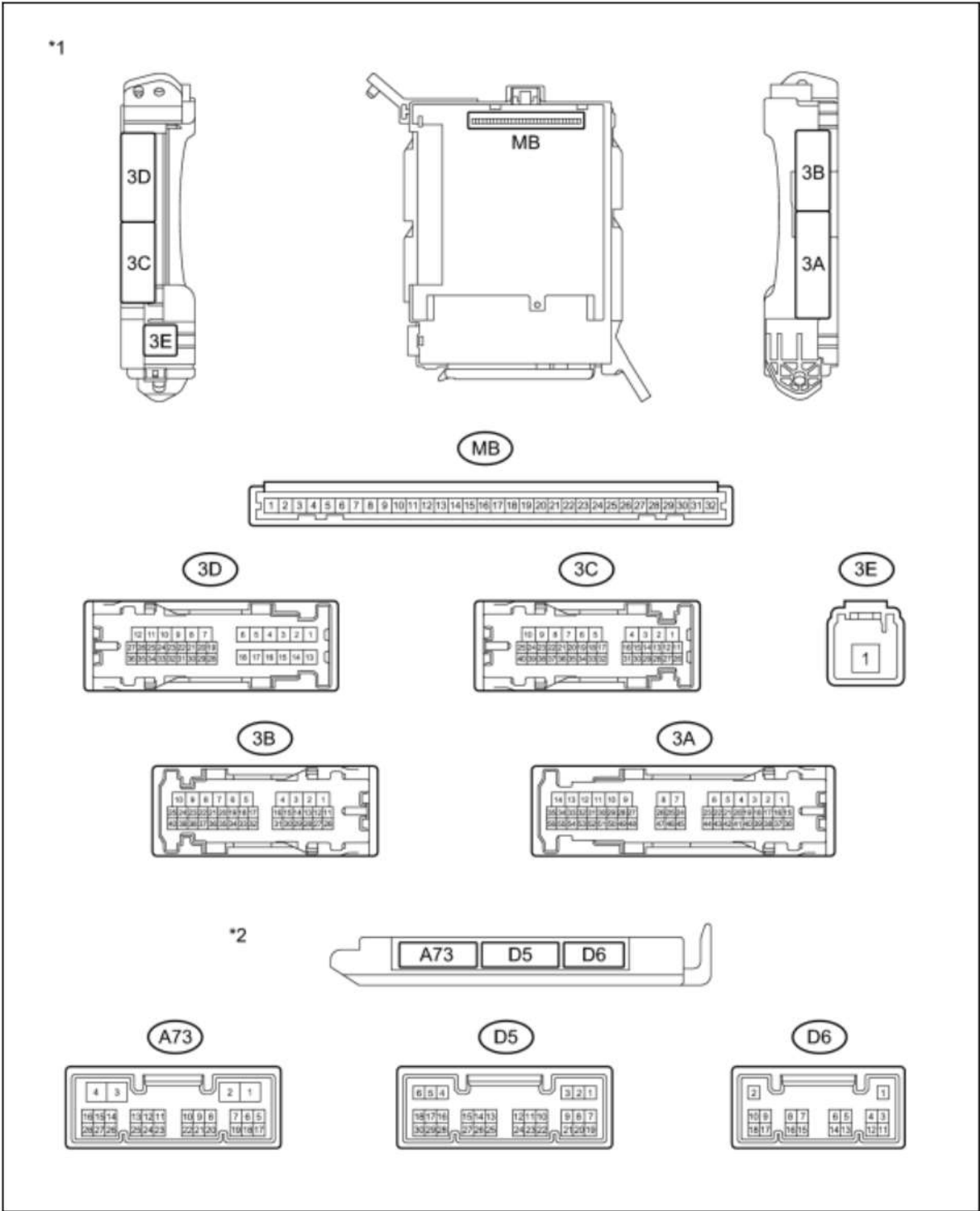


cardiagn.com

Last Modified: 3-27-2012	6.4 U	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000001JW703SX
Title: DOOR LOCK: POWER DOOR LOCK CONTROL SYSTEM: TERMINALS OF ECU (2013 FR-S)		

TERMINALS OF ECU

1. CHECK INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY AND MAIN BODY ECU (NETWORK GATEWAY ECU)



Text in Illustration

*1	Instrument Panel Junction Block Assembly	*2	Main Body ECU (Network Gateway ECU)
----	--	----	-------------------------------------

- (a) Remove the main body ECU (network gateway ECU) from the instrument panel junction block assembly.
- (b) Disconnect the D5, D6 and A73 main body ECU (network gateway ECU) connectors.
- (c) Measure the resistance and voltage between each terminal of the wire harness side connectors and body ground.

TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
MB-1 (BECU) - Body ground	None - Body ground	Battery power supply	Always	11 to 14 V
MB-8 (IG) - Body ground	None - Body ground	Ignition switch power supply	Ignition switch ON	11 to 14 V
			Ignition switch off	Below 1 V
MB-9 (ACC) - Body ground	None - Body ground	ACC power supply	Ignition switch ACC	11 to 14 V
			Ignition switch off	Below 1 V
MB-11 (GND) - Body ground	None - Body ground	Ground	Always	Below 1 Ω
MB-32 (+B) - Body ground	None - Body ground	Battery power supply	Always	11 to 14 V
D5-22 (KSW) - Body ground	BR - Body ground	Unlock warning switch input	No key in ignition key cylinder (off)	Below 1 V
			Key inserted ignition key cylinder (on)	11 to 14 V
D6-1 (GND) - Body ground	B - Body ground	Ground	Always	Below 1 Ω
A73-4 (GND) - Body ground	B-Y - Body ground	Ground	Always	Below 1 Ω

- (d) Reconnect the D5, D6 and A73 main body ECU (network gateway ECU) connectors.
- (e) Install the main body ECU (network gateway ECU) to the instrument panel junction block assembly.
- (f) Measure the voltage and resistance, according to the valve(s) in the table below.

TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
3A-28 - Body ground	Y - Body ground	Driver side door courtesy light switch input	Driver side door open	Below 1 V
			Driver side door closed	11 to 14 V
3B-13 - Body ground	L - Body ground	Passenger side door courtesy light switch input	Passenger side door open	Below 1 V
			Passenger side door closed	11 to 14 V
			Door control switch not	Below 1 V

3B-2 - Body ground	Y - Body ground	Door lock motor lock drive output (for driver side)	pushed	
			Lock side of door control switch pushed	11 to 14 V
3B-3 - Body ground	L - Body ground	Door lock motor lock drive output (for passenger side)	Door control switch not pushed	Below 1 V
			Lock side of door control switch pushed	11 to 14 V
3D-11 - Body ground	R-G - Body ground	Door lock motor unlock drive output (for driver side)	Door control switch not pushed	Below 1 V
			Unlock side of door control switch pushed	11 to 14 V
3B-4 - Body ground	L-W - Body ground	Door lock motor unlock drive output (for passenger side)	Door control switch not pushed	Below 1 V
			Unlock side of door control switch pushed	11 to 14 V
3D-26 - Body ground	SB - Body ground	Luggage compartment door courtesy light switch input	Luggage compartment door open	Below 1 V
			Luggage compartment door closed	11 to 14 V



Last Modified: 3-27-2012	6.4 A	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000003ZV300TX
Title: DOOR LOCK: TRANSMITTER BATTERY: REPLACEMENT (2013 FR-S)		

REPLACEMENT

NOTICE:

Take extra care when handling these precision electronic components.

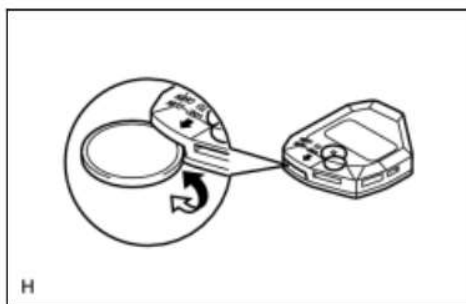
1. REMOVE TRANSMITTER HOUSING COVER

INFO

2. REMOVE DOOR CONTROL TRANSMITTER ASSEMBLY

INFO

3. REMOVE TRANSMITTER BATTERY

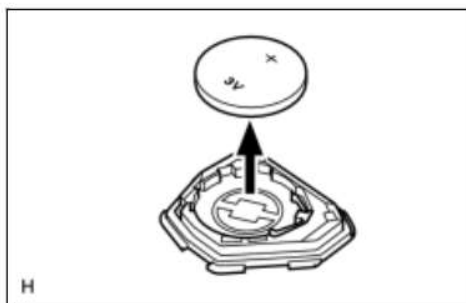


(a) Disengage the hook and remove the transmitter battery cover.

(b) Remove the transmitter battery (lithium battery: CR2016).

NOTICE:

- Do not push the terminals with your finger.
- Do not use excessive force when prying up the battery (lithium battery: CR2016) as this may damage the terminals.
- Do not touch the battery with wet hands. Water may cause it to rust.
- Do not touch or move any components inside the transmitter as this may interfere with its proper operation.
- When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter from being damaged.

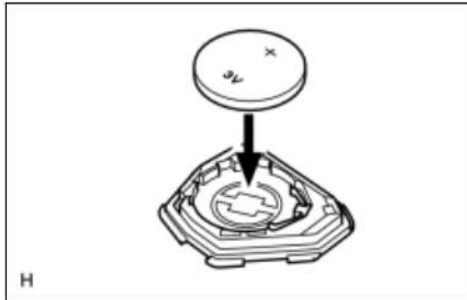


HINT:

Tape the screwdriver tip before use.

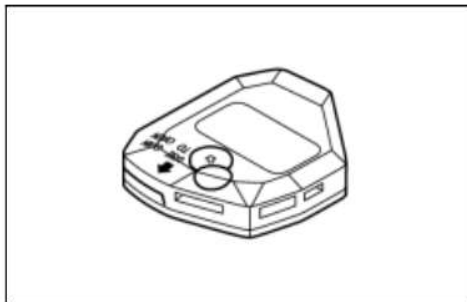
4. INSTALL TRANSMITTER BATTERY

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



NOTICE:

- Make sure that the positive (+) side and the negative (-) side of the transmitter battery are correctly matched with the transmitter terminals.
- Do not bend the transmitter battery electrode during insertion.
- Keep the transmitter cover interior free of dust and oil.
- When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter from being damaged.



- (b) Engage the hook and install the transmitter battery cover.

NOTICE:

Securely engage the claws of the cover to prevent the poor contact between the battery and terminal.

5. INSTALL DOOR CONTROL TRANSMITTER ASSEMBLY

INFO

6. INSTALL TRANSMITTER HOUSING COVER

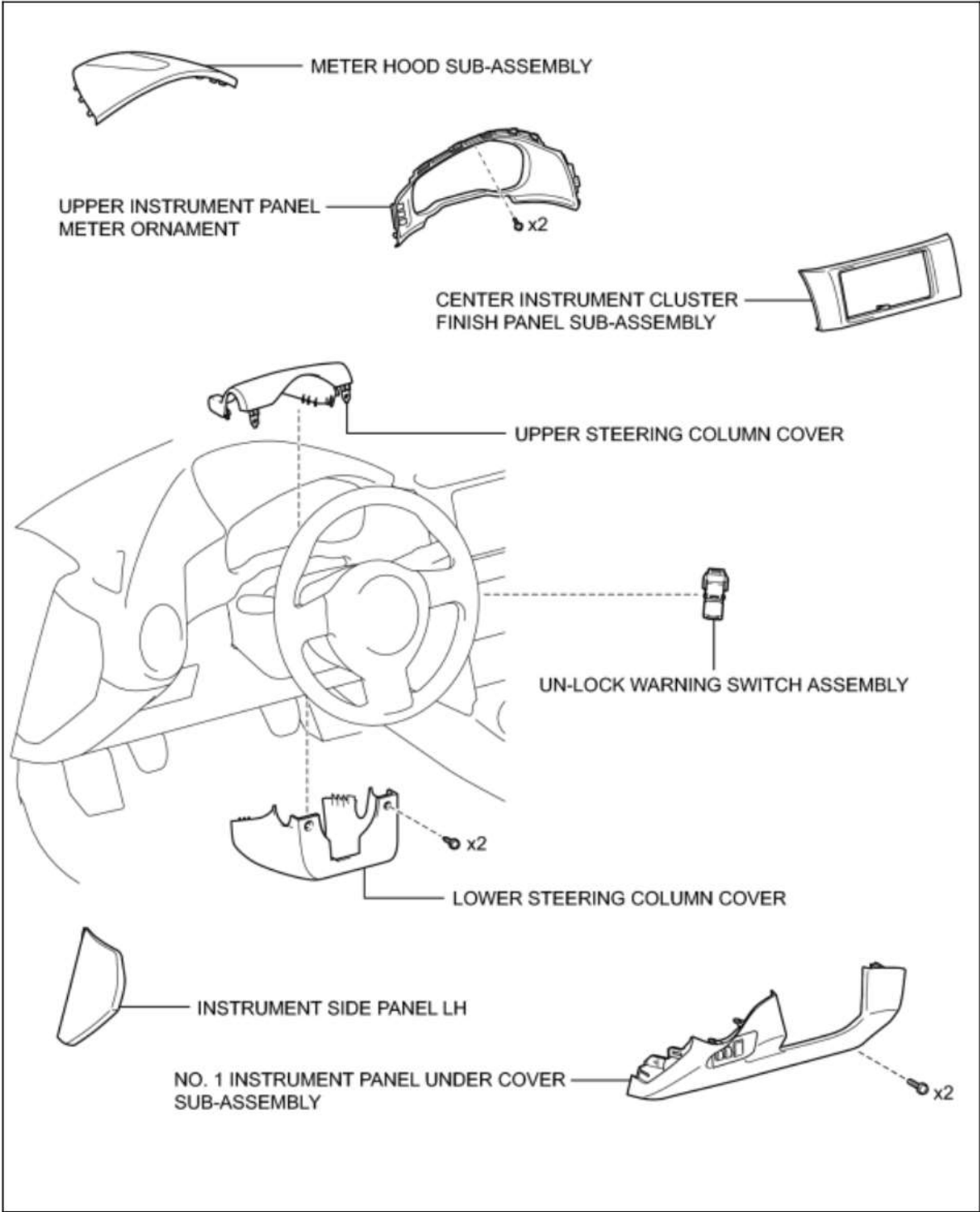
INFO



Last Modified: 3-27-2012	6.4 K	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000002ZQ501LX
Title: DOOR LOCK: UNLOCK WARNING SWITCH: COMPONENTS (2013 FR-S)		

COMPONENTS

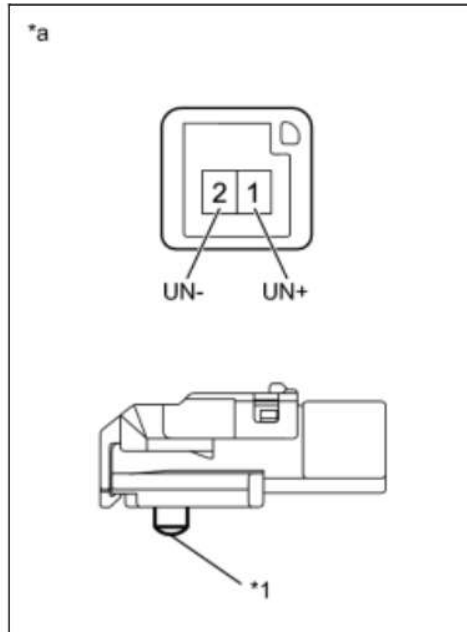
ILLUSTRATION



cardiagn.com

Last Modified: 3-27-2012	6.4 G	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000002ZQ401ZX
Title: DOOR LOCK: UNLOCK WARNING SWITCH: INSPECTION (2013 FR-S)		

INSPECTION



1. INSPECT UN-LOCK WARNING SWITCH ASSEMBLY

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

Standard Resistance:

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

If the result is not as specified, replace the un-lock warning switch assembly.

Text in Illustration

*1	Pin
*a	Component without harness connected (Un-lock Warning Switch Assembly)



Last Modified: 3-27-2012	6.4 A	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000002ZQ302GX
Title: DOOR LOCK: UNLOCK WARNING SWITCH: INSTALLATION (2013 FR-S)		

INSTALLATION

1. INSTALL UN-LOCK WARNING SWITCH ASSEMBLY

- (a) Attach the 2 claws to install the un-lock warning switch assembly.
- (b) Connect the un-lock warning switch assembly connector.

2. INSTALL UPPER STEERING COLUMN COVER [INFO](#)

3. INSTALL LOWER STEERING COLUMN COVER [INFO](#)

4. INSTALL NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY [INFO](#)

5. INSTALL UPPER INSTRUMENT PANEL METER ORNAMENT [INFO](#)

6. INSTALL METER HOOD SUB-ASSEMBLY [INFO](#)

7. INSTALL CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY [INFO](#)

8. INSTALL INSTRUMENT SIDE PANEL LH [INFO](#)

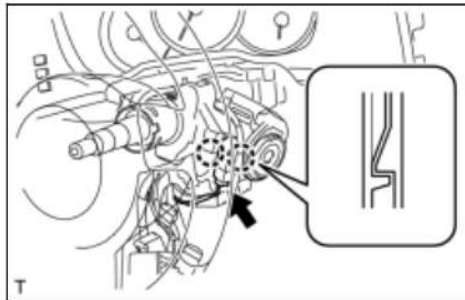


cardiagn.com

Last Modified: 3-27-2012	6.4 A	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000002ZQ602HX
Title: DOOR LOCK: UNLOCK WARNING SWITCH: REMOVAL (2013 FR-S)		

REMOVAL

1. REMOVE INSTRUMENT SIDE PANEL LH INFO
2. REMOVE CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY INFO
3. REMOVE METER HOOD SUB-ASSEMBLY INFO
4. REMOVE UPPER INSTRUMENT PANEL METER ORNAMENT INFO
5. REMOVE NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY INFO
6. REMOVE LOWER STEERING COLUMN COVER INFO
7. REMOVE UPPER STEERING COLUMN COVER INFO
8. REMOVE UN-LOCK WARNING SWITCH ASSEMBLY



(a) Disconnect the un-lock warning switch assembly connector.

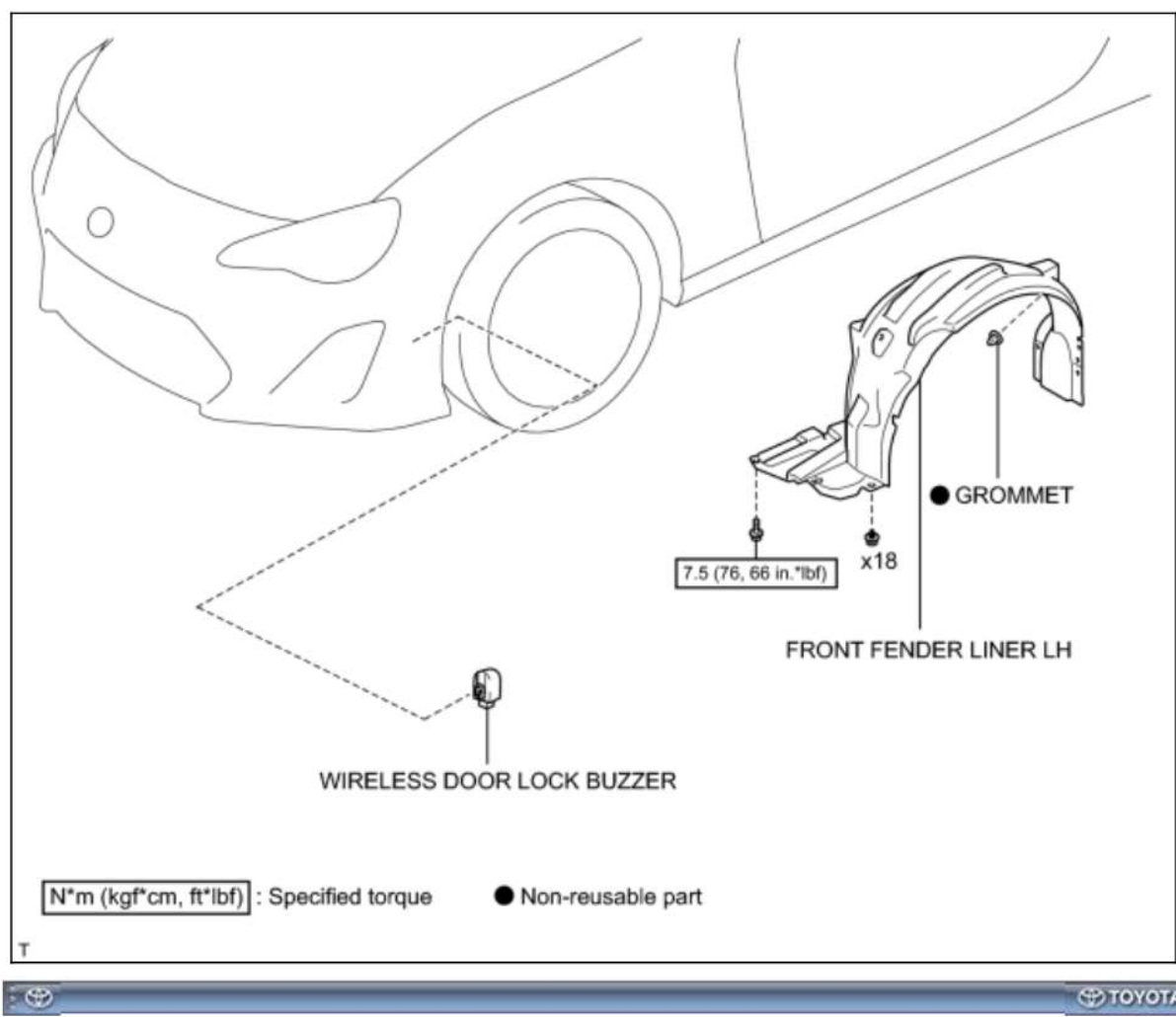
(b) Detach the 2 claws and remove the un-lock warning switch assembly.



Last Modified: 3-27-2012	6.4 K	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000002XKV01IX
Title: DOOR LOCK: WIRELESS DOOR LOCK BUZZER: COMPONENTS (2013 FR-S)		

COMPONENTS

ILLUSTRATION



Last Modified: 3-27-2012	6.4 A	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000002XKT025X
Title: DOOR LOCK: WIRELESS DOOR LOCK BUZZER: INSTALLATION (2013 FR-S)		

INSTALLATION

1. INSTALL WIRELESS DOOR LOCK BUZZER

- (a) Connect the connector.
- (b) Engage the clamp to install the wireless door lock buzzer.

2. INSTALL FRONT FENDER LINER LH INFO

3. INSTALL FRONT WHEEL

Torque: 120 N·m (1224 kgf·cm, 89ft·lbf)

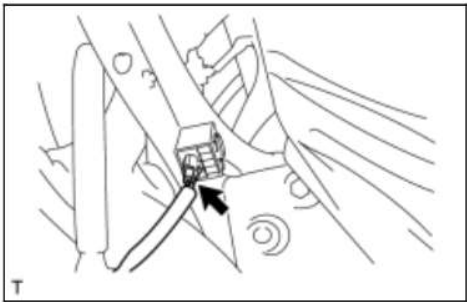


cardiagn.com

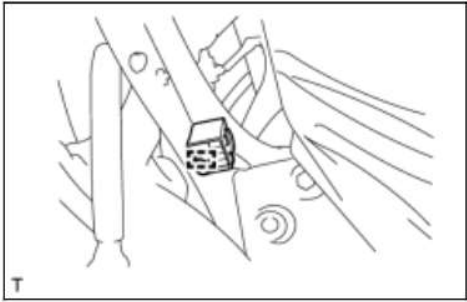
Last Modified: 3-27-2012	6.4 A	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000002XKW01VX
Title: DOOR LOCK: WIRELESS DOOR LOCK BUZZER: REMOVAL (2013 FR-S)		

REMOVAL

- 1. REMOVE FRONT WHEEL
- 2. REMOVE FRONT FENDER LINER LH INFO
- 3. REMOVE WIRELESS DOOR LOCK BUZZER



(a) Disconnect the connector.



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



Last Modified: 3-27-2012	6.4 C	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000001TQK00RX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM: B1242: Wireless Door Lock Tuner Circuit Malfunction (2013 FR-S)		

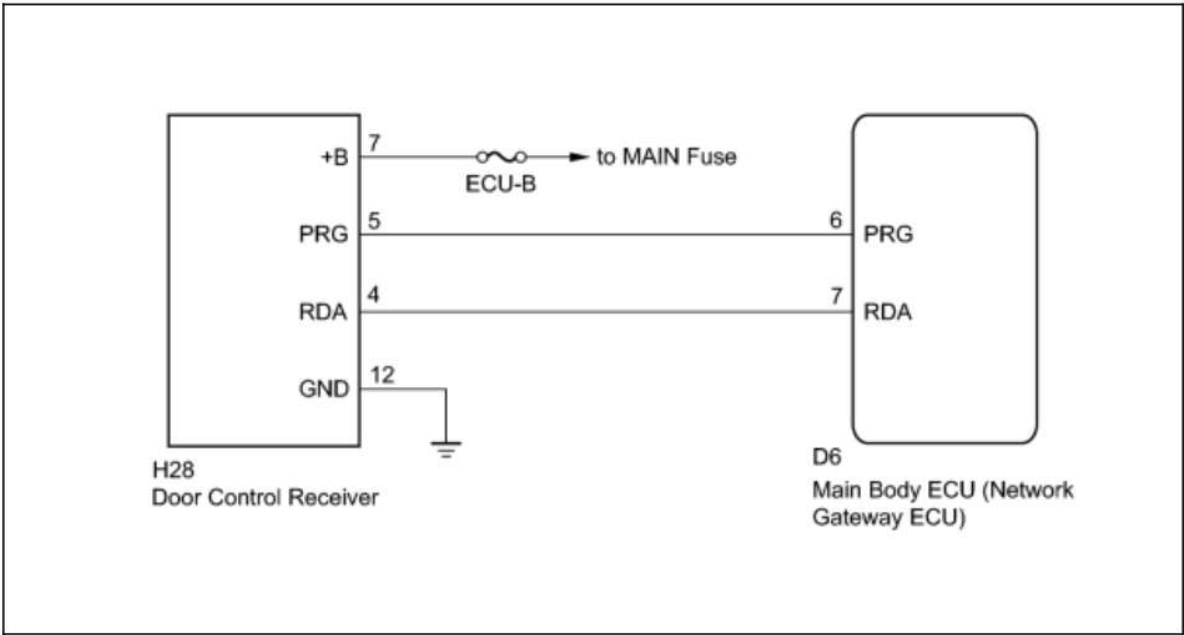
DTC	B1242	Wireless Door Lock Tuner Circuit Malfunction
-----	-------	--

DESCRIPTION

This door control receiver receives signals from the transmitter and sends these signals to the main body ECU (network gateway ECU).

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B1242	In diagnostic mode, applicable RDA signal cannot be received 3 times in succession after the PRG signal is output from the main body ECU (network gateway ECU).	• Wire harness or connector • Door control receiver • Main body ECU (network gateway ECU)

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

PROCEDURE

1.

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

- (a) Disconnect the D6 main body ECU (network gateway ECU) connector.
- (b) Disconnect the H28 door control receiver connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
D6-6 (PRG) - H28-5 (PRG)	Always	Below 1 Ω
D6-7 (RDA) - H28-4 (RDA)	Always	Below 1 Ω
D6-6 (PRG) - Body ground	Always	10 k Ω or higher
D6-7 (RDA) - Body ground	Always	10 k Ω or higher

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



2.

INSPECT DOOR CONTROL RECEIVER (POWER SOURCE, GROUND)

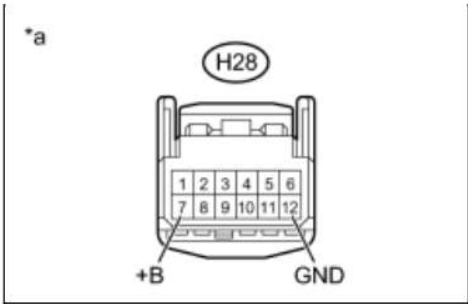
- (a) Measure the voltage and resistance according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
H28-7 (+B) - Body ground	Always	11 to 14 V

Standard Resistance:

--	--	--



--	--	--

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
H28-12 (GND) - Body ground	Always	Below 1 Ω

Text in Illustration

*a	Front view of wire harness connector (to Door Control Receiver)
----	---

NG REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

3. REPLACE DOOR CONTROL RECEIVER

(a) Temporarily replace the door control receiver with a new or normally functioning one INFO.

NEXT

4. REGISTER RECOGNITION CODE

(a) Perform the Registration procedures INFO.

HINT:

If a new or normal functioning door control receiver is available, connect it and check if the wireless door lock function is normal or the DTC is output. If the alternative receiver functions normally, replace the original door control receiver.

NEXT

5.	CLEAR DTC
-----------	------------------

(a) Clear the DTC  .

NEXT



6.	CHECK FOR DTC
-----------	----------------------

(a) Check for DTCs  .

OK:

DTC is not output.

HINT:

Reinstall the parts, such as sensors and connectors, and restore the vehicle to its previous conditions before rechecking for DTCs.

NG ► **REPLACE MAIN BODY ECU (NETWORK GATEWAY ECU)**

OK ► **END (DOOR CONTROL RECEIVER IS DEFECTIVE)**



Last Modified: 3-27-2012	6.4 A	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM00000593H000X
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM: CUSTOMIZE PARAMETERS (2013 FR-S)		

CUSTOMIZE PARAMETERS

1. CUSTOMIZE WIRELESS DOOR LOCK CONTROL SYSTEM

(a) Customizing with the Techstream

NOTICE:

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

HINT:

The following items can be customized.

- (1) Connect the Techstream to the DLC3.
- (2) Turn the ignition switch to ON.
- (3) Turn the Techstream on.
- (4) Enter the following menus: Body Electrical / Main Body / Utility / Customize / Wireless Door Lock or Others.
- (5) Select the setting by referring to the table below.

Wireless Door Lock

DISPLAY	DEFAULT	FUNCTION	SETTING	RELEVANT ECU
Wireless Control	ON	Function that turns wireless door lock function / OFF or ON	OFF or ON	Main body ECU (network gateway ECU)
Wireless Buzzer Resp	ON	Wireless door lock buzzer response	OFF or ON	Main body ECU (network gateway ECU)
Hazard Answer Back	ON	When wireless lock switch on transmitter pressed, illuminate all hazard warning lights once. When unlock switch pressed, all hazard warning lights illuminate twice.	OFF or ON	Main body ECU (network gateway ECU)
Open Door	ON	The buzzer sounds when lock is pressed when any	OFF or ON	Main body ECU (network

Warning		of the doors are ajar.		gateway ECU)
Unlock 2 Operation	ON	Function that unlocks driver door when unlock switch on door control transmitter module set sub-assembly is pressed once, and unlocks all doors when pressed twice. If setting is OFF, pressing unlock switch once makes all doors unlock.	OFF or ON	Main body ECU (network gateway ECU)
Panic Function	ON	Function to operate theft deterrent system by continuously pressing panic switch on door control transmitter module set sub-assembly for 1.5 seconds	OFF or ON	Main body ECU (network gateway ECU)
Wireless Auto Lock	ON	This function turns the wireless auto lock function OFF or ON	OFF or ON	Main body ECU (network gateway ECU)
Auto Lock Time	60 s	Time until relocking after unlocking with wireless door lock function	30 s, 60 s or 120 s	Main body ECU (network gateway ECU)
Trunk Lid Operation	Long1	Function to change the operation method of opening the luggage compartment door by the door control transmitter module set sub-assembly.	1tim ON, 2tim ON, Long1 or Long2	Main body ECU (network gateway ECU)
Wireless Buzzer Vol	Level 5	Wireless door lock buzzer volume	Level 7, Level 6, Level 5, Level 4, Level 3, Level 2, Level 1 or Level 0	Main body ECU (network gateway ECU)

Others

DISPLAY	DEFAULT	FUNCTION	SETTING	RELEVANT ECU
Detection of Vehicle	ON	This function turns the detection of vehicle function OFF or ON.	OFF or ON	Main body ECU (network gateway ECU)



Last Modified: 3-27-2012	6.4 U	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000000XXB02BX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM: DATA LIST / ACTIVE TEST (2013 FR-S)		

DATA LIST / ACTIVE TEST

1. READ DATA LIST

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.

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.

- Connect the Techstream to the DLC3.
- Turn the ignition switch to ON.
- Turn the Techstream on.
- Enter the following menus: Body Electrical / Main Body / Data List.
- Read the Data List according to the display on the Techstream.

Main Body

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Wireless Control	Wireless door lock control function / OFF or ON	Customized setting displayed	-
Wireless Buzzer Resp	Wireless buzzer response / OFF or ON	Customized setting displayed	-
Hazard Answer Back	Hazard answer-back of wireless / OFF or ON	Customized setting displayed	-
Open Door Warning	Open door warning / OFF or ON	Customized setting displayed	-
Unlock 2 Operation	2 times operation of wireless unlock / OFF or ON	Customized setting displayed	-
Panic Function	Panic function / OFF or ON	Customized setting displayed	-
Wireless Auto Lock	Automatic lock function / OFF or ON	Customized setting displayed	-
Auto Lock Time	Automatic lock time / 30 s, 60 s or 120 s	Customized setting displayed	-

Trunk Lid Operation	Opening the luggage compartment door by the door control transmitter module set sub-assembly/ 1 tim ON, 2 tim ON, Long1 or Long2	Customized setting displayed	-
Wireless Buzzer Vol	Wireless door lock buzzer volume/Level7, Level6, Level5, Level4, Level3, Level2, Level1 or Level0	Customized setting displayed	-
Detection of Vehicle	Detection of vehicle function OFF or ON	Customized setting displayed	-
D Door Courtesy SW	Driver side door courtesy light switch signal / ON or OFF	ON: Driver side door opened OFF: Driver side door closed	-
P Door Courtesy SW	Passenger side door courtesy light switch signal / ON or OFF	ON: Passenger side door opened OFF: Passenger side door closed	-
Luggage Courtesy SW	Luggage compartment door courtesy switch signal / OFF or ON	ON: Luggage compartment door is open OFF: Luggage compartment door is closed	-
IG SW	Ignition switch IG signal / ON or OFF	ON: Ignition switch ON OFF: Ignition switch off	-
ACC SW	Ignition switch ACC signal / ON or OFF	ON: Ignition switch ACC OFF: Ignition switch off	-
Key Unlock Warning SW	Unlock warning switch / OFF or ON	OFF: Ignition key is not inserted ON: Ignition key is inserted	-
Hazard Output	Hazard warning light output / OFF or ON	OFF: Not during hazard answer-back operation ON: During hazard answer-back operation	-
Wireless Buzzer Output	Wireless door lock buzzer output / OFF or ON	OFF: Not during wireless door lock buzzer answer-back operation ON: During wireless door lock buzzer answer-back operation	-

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	Unlock / Lock	-
D-Door Unlock	Driver side door lock motor	OFF / ON	-
Trunk and Back-Door Open	Luggage door lock motor	OFF / ON	-
Illuminated Entry System	Interior lights (Interior light switch is in door position and all doors are closed)	OFF / ON	-
Wireless Buzzer	Wireless door lock buzzer	OFF / ON	-
Hazard	Turn signal flasher assembly	OFF / ON	-
Door Open/Close State	Main body ECU (network gateway ECU)	OFF / ON	-



Last Modified: 3-27-2012	6.4 D	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000001PQX0CMX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM: DIAGNOSIS SYSTEM (2013 FR-S)		

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.

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

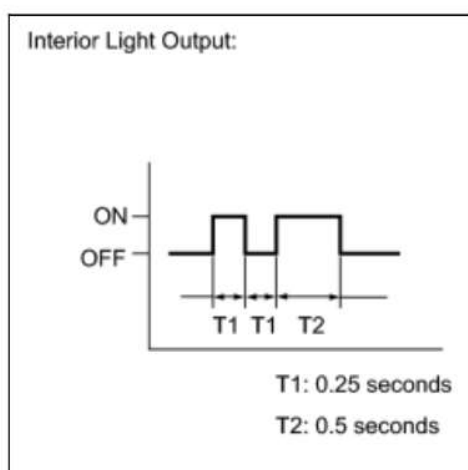
- (a) Switch to self-diagnostic mode.
- (1) Insert the key into the ignition key cylinder and remove it.
 - (2) Within 5 seconds after the key is removed, insert it into the ignition key cylinder and then turn the ignition switch to ON then off once. (End in off)
 - (3) Within 30 seconds after turning the ignition switch off, perform the following 9 times: Turn the ignition switch to ON then off. (End in off)

HINT:

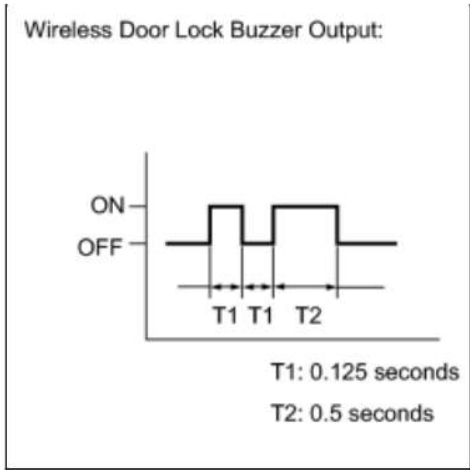
Turning the ignition switch to ON after the procedure above has been completed will end the self-diagnostic mode.

NOTICE:

If the system fails to enter self-diagnostic mode, the system will return to normal mode.

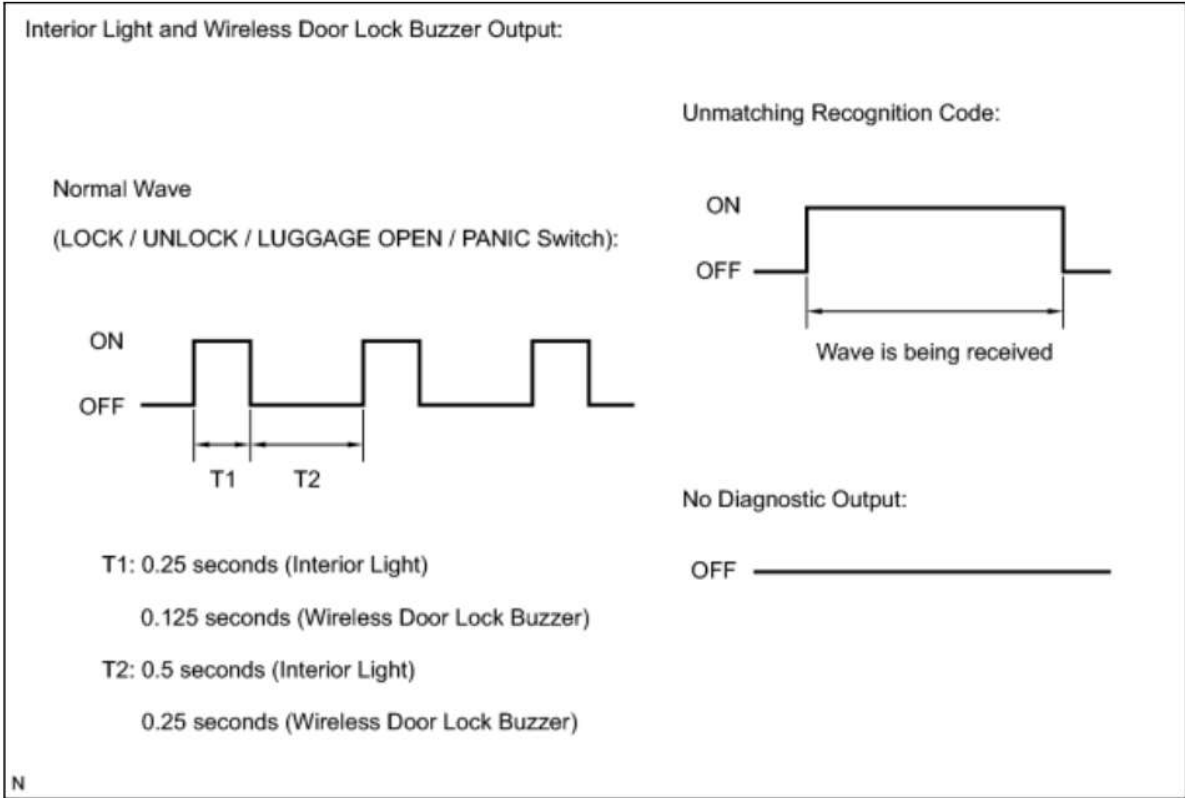


- (b) Check that the system has switched to self-diagnostic mode by checking the interior light output pattern.

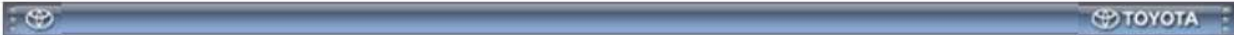


(c) Check that the system has switched to self-diagnostic mode by checking the wireless door lock buzzer output pattern.

(d) Check the diagnostic outputs when the door control transmitter module set sub-assembly switch is held down. The diagnostic outputs can be checked by the interior light and wireless door lock buzzer patterns.



N



Last Modified: 3-27-2012	6.4 S	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM0000012LR01SX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM: DIAGNOSTIC TROUBLE CODE CHART (2013 FR-S)		

DIAGNOSTIC TROUBLE CODE CHART

DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
B1242	Wireless Door Lock Tuner Circuit Malfunction	- Wire harness or connector - Door control receiver - Main body ECU (network gateway ECU)	INFO



Last Modified: 3-27-2012	6.4 D	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM0000012M1026X
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM: DTC CHECK / CLEAR (2013 FR-S)		

DTC CHECK / CLEAR

1. CHECK DTC

(a) DTC check

- (1) Connect the Techstream to the DLC3.
- (2) Turn the ignition switch to ON.
- (3) Turn the Techstream on.
- (4) Enter the following menus: Body Electrical / Main Body / Trouble Codes.
- (5) Check for DTCs.

(b) DTC clear

- (1) Connect the Techstream to the DLC3.
- (2) Turn the ignition switch to ON.
- (3) Turn the Techstream on.
- (4) Enter the following menu: Body Electrical / Main Body / Trouble Codes.
- (5) Clear the DTCs by following the directions on the Techstream display.



Last Modified: 3-27-2012	6.4 D	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000000XX204PX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM: HOW TO PROCEED WITH TROUBLESHOOTING (2013 FR-S)		

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- The wireless door lock control system troubleshooting procedures are based on the premise that the power door lock system is operating normally. Check the power door lock system first before troubleshooting the wireless door lock control system.
- Use this procedure to troubleshoot the wireless door lock control system.
- *: Use the Techstream.

1. VEHICLE BROUGHT TO WORKSHOP

NEXT



2. INSPECT BATTERY VOLTAGE

(a) Check the battery voltage.

Standard voltage:
11 to 14 V

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

NEXT



3. CHECK FOR DTC*

(a) Check for DTCs and note any codes that are output [INFO](#) .

(b) Clear the DTCs [INFO](#) .

(c) Recheck for DTCs.

Result

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

B ► **GO TO DTC CHART**

A
▼

4.	PROBLEM SYMPTOMS TABLE
-----------	-------------------------------

Result

RESULT	PROCEED TO
Fault is not listed in Problem Symptoms Table	A
Fault is listed in Problem Symptoms Table	B

B ► **Go to step 6**

A
▼

5.	OVERALL ANALYSIS AND TROUBLESHOOTING*
-----------	--

- (a) Terminals of ECU INFO .
- (b) Data List/Active Test INFO .
- (c) Operation check INFO .

NEXT
▼

6.	REPAIR OR REPLACE
-----------	--------------------------

HINT:

Register the recognition code when replacing the door control transmitter or the door control receiver.

NEXT



7.	CONFIRMATION TEST
----	-------------------

NEXT ► END



cardiagn.com

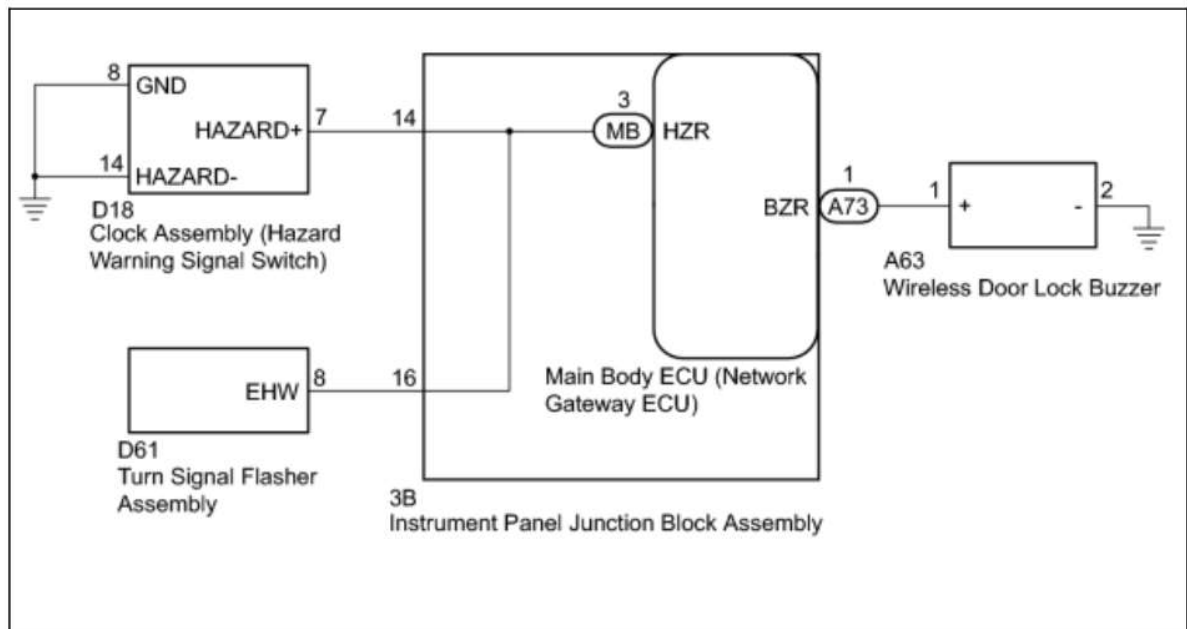
Last Modified: 3-27-2012	6.4 J	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM0000027Q805LX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM: No Answer-Back (2013 FR-S)		

No Answer-Back

DESCRIPTION

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

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1. READ VALUE USING TECHSTREAM (ANSWER-BACK OPERATION)

- Connect the Techstream to the DLC3.
- Turn the ignition switch to ON.
- Turn the Techstream on.
- Enter the following menus: Body Electrical / Main Body / Utility / Customize / Wireless Door Lock.

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

DISPLAY	DEFAULT	CONTENT	SETTING	RELEVANT ECU
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.	OFF or ON	Main body ECU (network gateway ECU)
Wireless Buzzer Resp	ON	Wireless door lock buzzer response	OFF or ON	Main body ECU (network gateway ECU)
Wireless Buzzer Vol	Level 5	Wireless door lock buzzer volume	Level 7, Level 6, Level 5, Level 4, Level 3, Level 2, Level 1 or Level 0	Main body ECU (network gateway ECU)

Result:

RESULT	PROCEED TO
Both items are ON and except Level 0	A
Either item is OFF or Level 0	B

B ► PERFORM CUSTOMIZE FUNCTION

A



2.	CHECK WIRELESS DOOR LOCK CONTROL FUNCTIONS
-----------	---

(a) Check the wireless door lock control function using the door control transmitter module set sub-assembly.

Result:

RESULT	PROCEED TO
Wireless door lock/unlock operates normally.	A
Wireless door lock/unlock does not operate normally.	B

B ► GO TO PROBLEM SYMPTOMS TABLE

A



3. CHECK WIRELESS ANSWER-BACK OPERATION

- (a) Check the wireless answer-back operation using the door control transmitter module set sub-assembly.

Result:

RESULT	PROCEED TO
Only wireless door lock buzzer answer-back does not occur.	A
Only hazard warning light answer-back does not occur.	B

B ► HAZARD WARNING LIGHTS OPERATION

A



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

- (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
Wireless Buzzer	Turns the wireless door lock buzzer	ON/OFF	-

Result:

RESULT	PROCEED TO
Wireless door lock buzzer does not turn on/off.	A
Wireless door lock buzzer turns on/off.	B

B ► REPLACE MAIN BODY ECU (NETWORK GATEWAY ECU)

A



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

- (a) Disconnect the A63 wireless door lock buzzer connector.
- (b) Disconnect the A73 main body ECU (network gateway ECU) connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A63-1 (+) - A73-1 (BZR)	Always	Below 1 Ω
A63-2 (-) - Body ground	Always	Below 1 Ω
A63-1 (+) - Body ground	Always	10 k Ω or higher

NG **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



6.	REPLACE WIRELESS DOOR LOCK BUZZER
-----------	--

- (a) Temporarily replace the wireless door lock buzzer with a new one INFO.

NEXT



7.	CHECK WIRELESS DOOR LOCK BUZZER OPERATION
-----------	--

- (a) Check the operation of the wireless answer-back function.

OK:

Wireless answer-back function operates normally.

NG **REPLACE MAIN BODY ECU (NETWORK GATEWAY ECU)**

OK

END (WIRELESS DOOR LOCK BUZZER WAS DEFECTIVE)

8. HAZARD WARNING LIGHTS OPERATION

- (a) Check that the hazard warning light blinks when the hazard warning signal switch is pressed.
- OK:
Hazard warning light signal is normally.

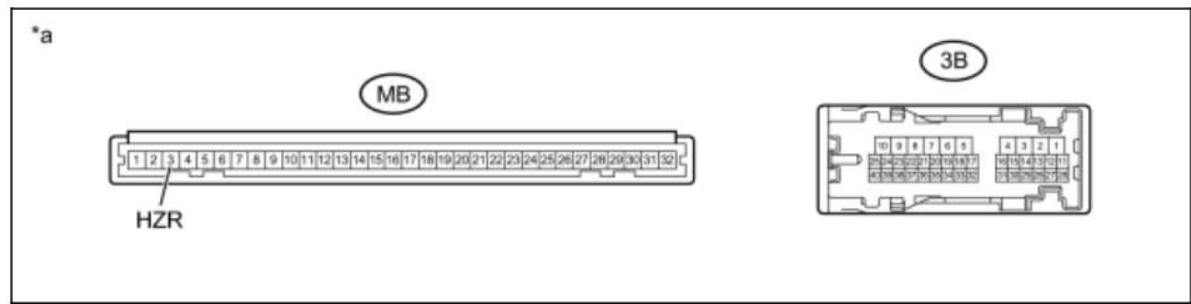
NG

GO TO LIGHTING SYSTEM (PROBLEM SYMPTOMS TABLE)

OK

9. INSPECT INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY

- (a) Remove the instrument panel junction block assembly INFO .
- (b) Remove the main body ECU (network gateway ECU) from the instrument panel junction block assembly.
- (c) Measure the resistance according to the value(s) in the table below.



Text in Illustration

*a	Component without harness connected (Instrument Panel Junction Block Assembly)	-	-
----	---	---	---

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3B-14 - MB-3 (HZR)	Always	Below 1 Ω
3B-16 - MB-3 (HZR)	Always	Below 1 Ω

NG ► **REPLACE INSTRUMENT PANEL JUNCTION
BLOCK ASSEMBLY**

OK ► **REPLACE MAIN BODY ECU (NETWORK
GATEWAY ECU)**



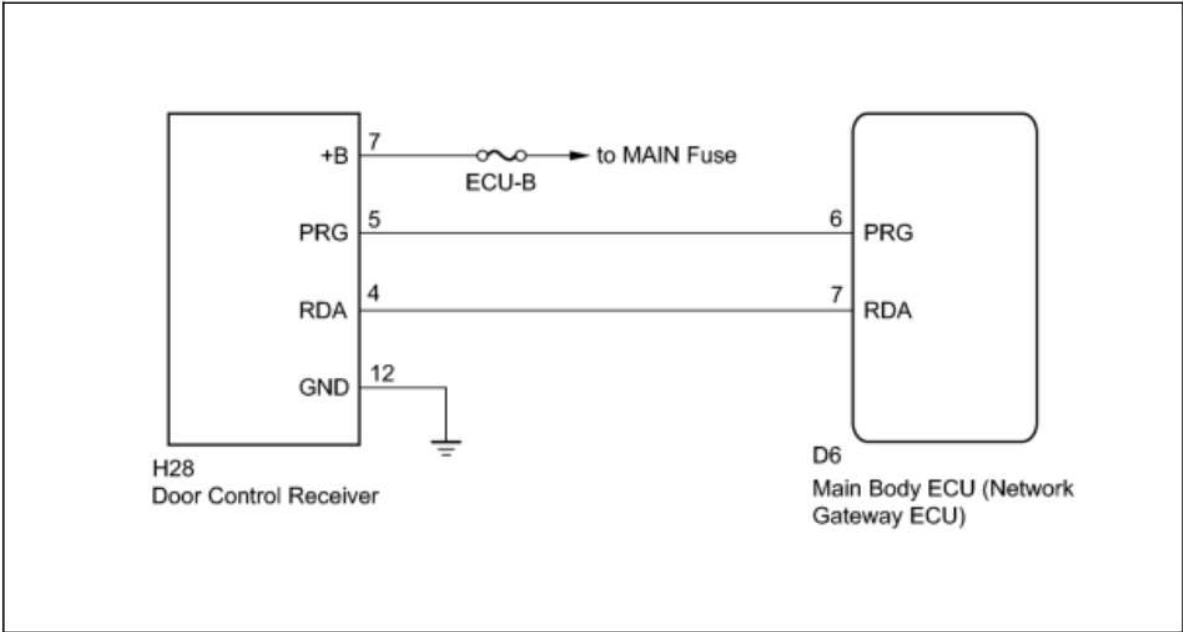
Last Modified: 3-27-2012	6.4 J	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000000Z4T03ZX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM: Only Wireless Control Function is Inoperative (2013 FR-S)		

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 (network gateway ECU). The main body ECU (network gateway ECU) then controls all doors by sending lock/unlock signals to each door.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:
Inspect the fuses for circuits related to this system before performing the following inspection procedure.

PROCEDURE

1.	CHECK POWER DOOR LOCK OPERATION
----	---------------------------------

- (a) When the door control switch on the power window regulator 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. SWITCH TO SELF DIAGNOSTIC MODE

(a) Switch to self-diagnostic mode by operating the ignition key cylinder.

- (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 once. (End in off)
- (3) Within 30 seconds after turning the ignition switch off, perform the following 9 times:
Turn the ignition switch to ON then off. (End in off)

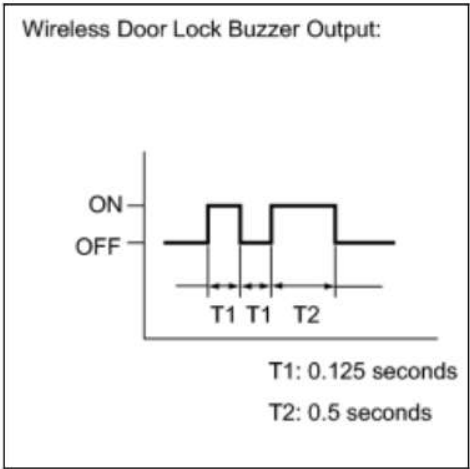
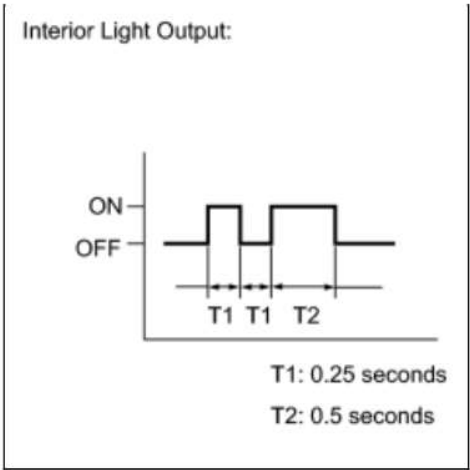
NOTICE:

If the system fails to enter self-diagnostic mode, the system will return to normal mode.

HINT:

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

- (b) Check that the system has switched to self-diagnostic mode by checking the interior light output pattern.



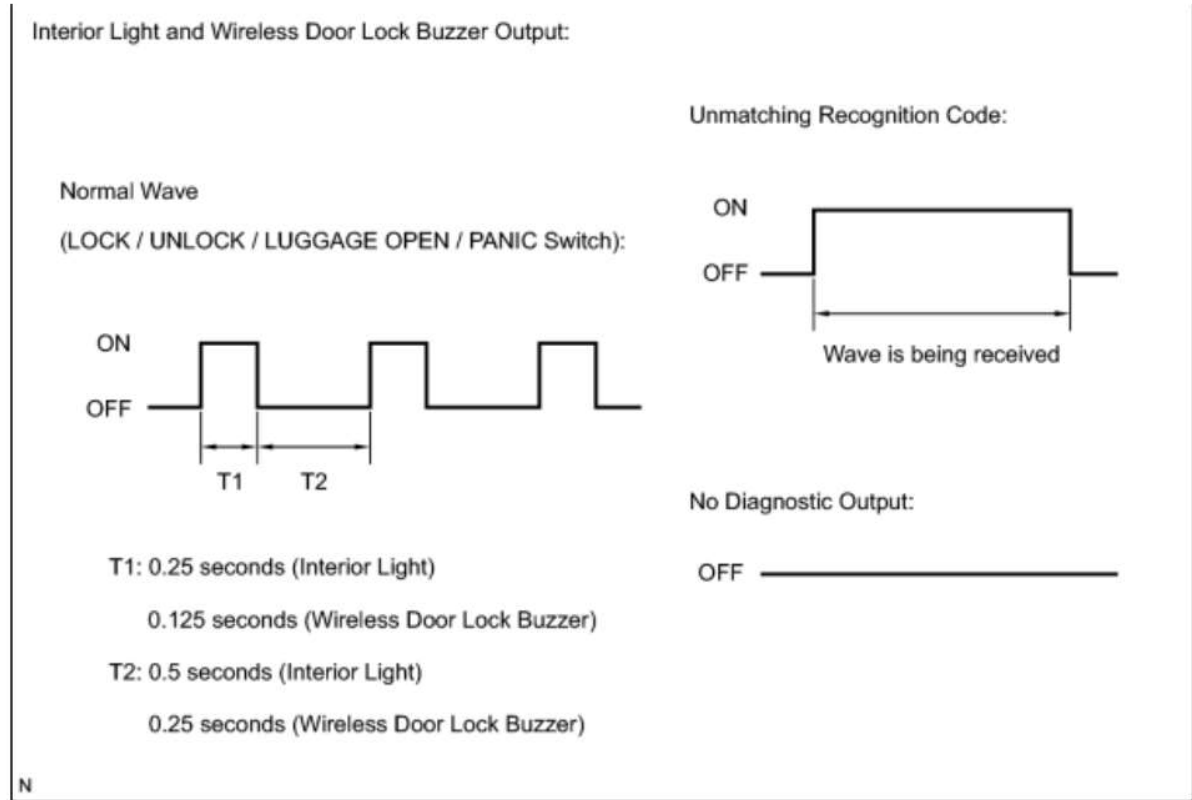
(c) Check that the system has switched to self-diagnostic mode by checking the wireless door lock buzzer output pattern.

OK:
Flash pattern is same as illustration on left.

NEXT
▼

4.	CHECK BY SELF DIAGNOSTIC MODE
-----------	--------------------------------------

(a) Check the diagnostic outputs when the door control transmitter module set sub-assembly switch is held down. The diagnostic outputs can be checked by the interior light and wireless door lock buzzer patterns.



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

- B ▶ REGISTER RECOGNITION CODE
- C ▶ CHECK RESPONSE OF DOOR CONTROL RECEIVER (RESPONSE)
- A ▶ REPLACE MAIN BODY ECU (NETWORK GATEWAY ECU)

5. REGISTER RECOGNITION CODE

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

- NG ▶ REPLACE DOOR CONTROL TRANSMITTER MODULE SET SUB-ASSEMBLY

OK▶END

6.

CHECK RESPONSE OF DOOR CONTROL RECEIVER (RESPONSE)

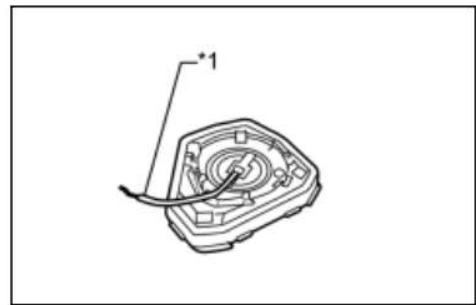
- (a) Prepare the door control transmitter from another vehicle.
- (b) Press and hold down the door control transmitter switch.
- (c) Check that an unmatching recognition code is output.
- OK:
- Unmatching recognition code is output.

NG▶CHECK WAVE ENVIRONMENT

OK
▼

7.

INSPECT TRANSMITTER BATTERY (VOLTAGE)



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

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

Text in Illustration

*1	Lead Wire
----	-----------

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

NOTICE:
When replacing the transmitter battery, before starting work, remove any static electricity that has built up by touching, for example, the vehicle to prevent the door control transmitter

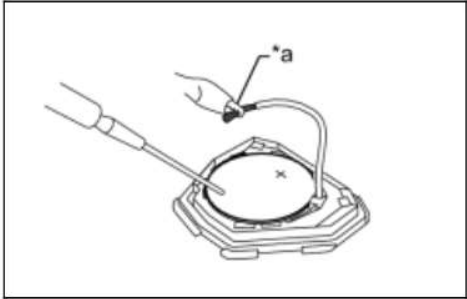
module set from being damaged.

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

HINT:

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

Standard Voltage:



TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
Battery positive (+) - Battery negative (-)	Ignition switch off, all doors closed and lock or unlock switch pushed	2.5 to 3.2 V

Text in Illustration

*a	GND
----	-----

NG ▶ REPLACE TRANSMITTER BATTERY

OK ▶ REPLACE DOOR CONTROL TRANSMITTER MODULE SET SUB-ASSEMBLY

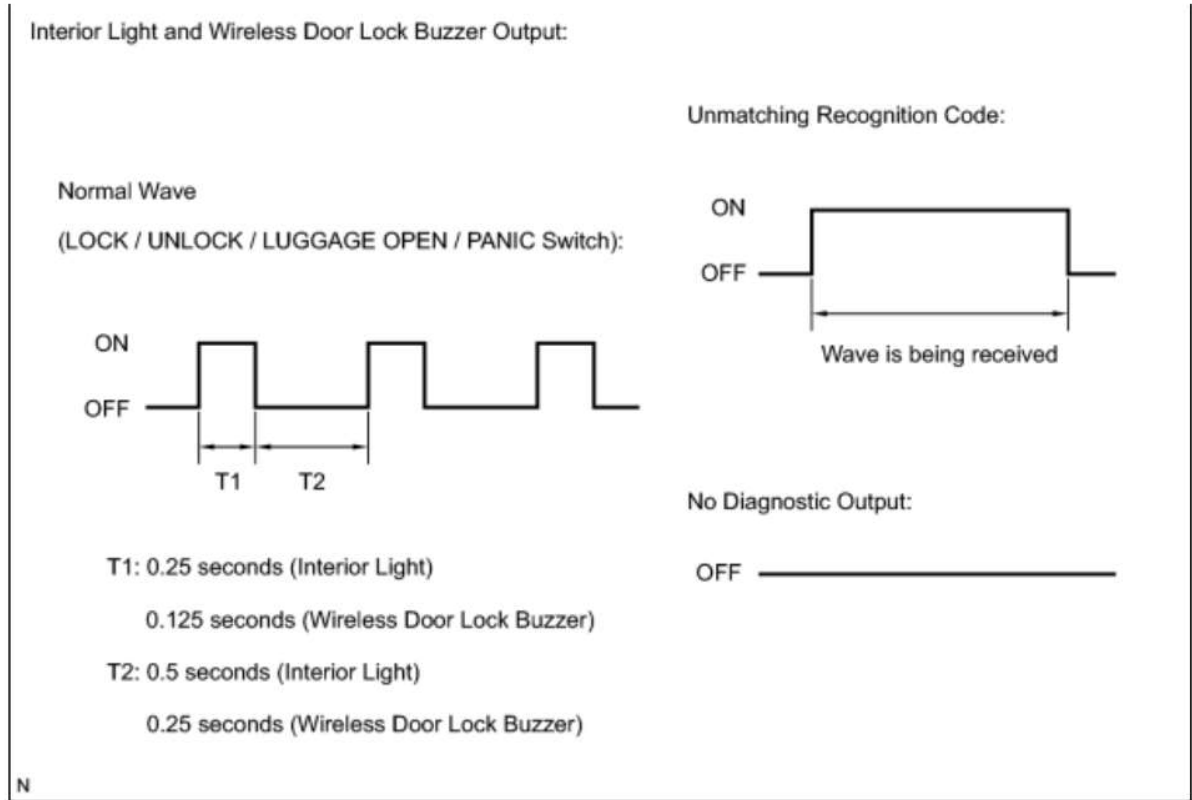
8. REPLACE TRANSMITTER BATTERY

(a) Replace the transmitter battery INFO .

NEXT
▼

9. CHECK BY SELF DIAGNOSTIC MODE

(a) Inspect the diagnostic outputs when the door control transmitter module set sub-assembly 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.



Result

RESULT	PROCEED TO
Normal wave (light flash pattern and buzzer pattern) is output.	A
Unmatching recognition code is output	B
No diagnosis outputs	

B ▶ REPLACE DOOR CONTROL TRANSMITTER
MODULE SET SUB-ASSEMBLY

A ▶ END (TRANSMITTER BATTERY IS
DEFECTIVE)

10. CHECK WAVE ENVIRONMENT

- (a) Bring the transmitter near the door control receiver, and perform a wireless operation check.
- OK:
Wireless functions operate normally.

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.

NG

AFFECTED BY WAVE INTERFERENCE

OK

11. INSPECT DOOR CONTROL RECEIVER (POWER SOURCE, GROUND)

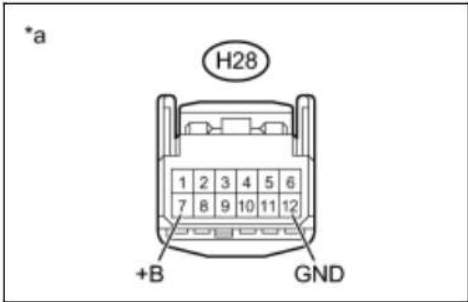
- (a) Disconnect the H28 door control receiver connector.
- (b) Measure the resistance and voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
H28-7 (+B) - Body ground	Always	11 to 14 V

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
H28-12 (GND) - Body ground	Always	Below 1 Ω



Text in Illustration

*a	Front view of wire harness connector (to Door Control Receiver)
----	--

NG

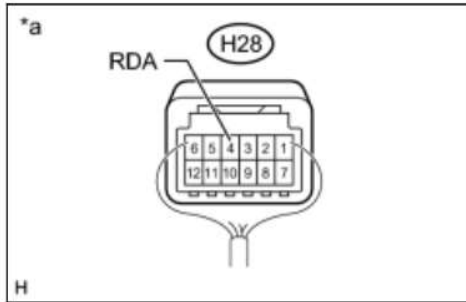
REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

12. INSPECT DOOR CONTROL RECEIVER (OUTPUT)

- (a) Reconnect the H28 door control receiver connector.
- (b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:



TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
H28-4 (RDA) - Body ground	Ignition switch off, all doors closed and door control transmitter switch off	11 to 14 V
	Ignition switch off, all doors closed and door control transmitter switch on	pulse generation

Text in Illustration

*a	Component with harness connected (Door Control Receiver)
----	---

NG ► **REPLACE DOOR CONTROL RECEIVER**

OK

13. CHECK HARNESS AND CONNECTOR (MAIN BODY ECU (NETWORK GATEWAY ECU) - DOOR CONTROL RECEIVER)

- (a) Disconnect the D6 main body ECU (network gateway ECU) connector.
- (b) Disconnect the H28 door control receiver connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
D6-7 (RDA) - H28-4 (RDA)	Always	Below 1 Ω
D6-6 (PRG) - H28-5 (PRG)	Always	Below 1 Ω
D6-7 (RDA) or H28-4 (RDA) - Body ground	Always	10 k Ω or higher
D6-6 (PRG) or H28-5 (PRG) - Body ground	Always	10 k Ω or higher

NG ► **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



14. REPLACE DOOR CONTROL RECEIVER

(a) Temporarily replace the door control receiver with a new or normally functioning one

INFO .

NEXT



15. REGISTER RECOGNITION CODE

(a) Perform the Registration procedures **INFO** .

NEXT



16. CHECK DOOR CONTROL RECEIVER (OPERATION)

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

OK:

Doors can be locked and unlocked with transmitter.

NG ► **REPLACE MAIN BODY ECU (NETWORK GATEWAY ECU)**

OK ► **END (DOOR CONTROL RECEIVER IS DEFECTIVE)**



Last Modified: 3-27-2012	6.4 D	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000003WRD00FX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM: OPERATION CHECK (2013 FR-S)		

OPERATION CHECK

1. FUNCTIONS AND OPERATING CONDITIONS

- (a) This wireless door lock control function operates only when the following 3 conditions are met:
- (1) There is no key in the ignition key cylinder.
 - (2) The power door lock system is functioning normally.
 - (3) The function is not disabled by customization.
- (b) The operating range differs depending on the situation.
- (1) The operating range differs depending on the user, the way the transmitter is held and the location.
 - (2) In certain areas, the operating range will be reduced due to the vehicle body shape and the influence of the surrounding environment.
 - (3) The transmitter's faint electric waves may be affected if the area has strong electric waves or noise. The transmitter's operating range may be reduced or the transmitter may not function.
 - (4) When the battery weakens, the operating range is reduced or the transmitter may not function.

HINT:

If the transmitter has had prolonged exposure to direct sunlight, such as being left on the instrument panel, the battery may weaken or other problems may occur.

2. CHECK WIRELESS DOOR LOCK CONTROL FUNCTIONS

HINT:

- The switches described below transmit signals and are built into the door control transmitter.
 - The transmitter's operating range must be taken into account while checks are being made.
- (a) Make sure that the vehicle is in a condition in which the wireless control functions can be operated (see above).
- (b) Check basic functions.
- (1) Check that all doors lock when lock switch is pressed.
 - (2) Check that the driver door unlocks when the unlock switch is pressed once, and unlocks all doors when pressed twice within 5 seconds.
 - (3) Check that the luggage compartment door opens when the luggage open switch is held down for 0.8 seconds or more.
- (c) Check the chattering prevention function.
- (1) When a switch is pressed, check that the corresponding operation occurs only once. When the switch is held down, check that the corresponding operation occurs only once and does not repeatedly activate. When the switch is pressed at 1-second intervals, check that the corresponding operation activates once for each press of the switch.
- (d) Check the automatic locking function.
- (1) When all doors are unlocked with the unlock switch and none of the doors are opened or

locked within 30 seconds, check that the doors are relocked automatically.

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

- (1) If the key is in the ignition key cylinder, check that the doors cannot be locked by the lock switch. However, this does not apply when the system is in recognition code registration mode.

(f) Check the door ajar warning function.

- (1) Check that the wireless door lock buzzer sounds for approximately 5 seconds when the lock switch is pressed with any of the doors ajar or open.

(g) Check the answer-back (hazard warning light) function.

- (1) When the lock switch is pressed, check that the hazard warning lights flash once and all doors are locked.
- (2) When the unlock switch is pressed, check that the hazard warning lights flash twice and all doors are unlocked.

(h) Check the answer-back (wireless door lock buzzer) function.

- (1) When the lock switch is pressed, check that the buzzer sounds once simultaneously with the locking operation of all doors.
- (2) When the unlock switch is pressed once, check that the buzzer sounds twice simultaneously with the unlocking operation of the driver door.
- (3) When the luggage compartment door is opened by wireless operation, the wireless door lock buzzer sounds.

(i) Check the panic alarm control function

- (1) Check that the horn sounds, the headlights and taillights flash and the interior lights remain 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 any switch of the transmitter is pressed.

(j) Check the vehicle position sensing function

- (1) If the following conditions are met 3 times within 5 seconds, the vehicle position sensing function will sound the horn once and flash the hazard warning lights 3 times.
 - Ignition switch off
 - Key is not inserted into the ignition key cylinder
 - All doors and luggage compartment door closed
 - Door control transmitter lock switch pressed

(k) Check the illuminated entry function.

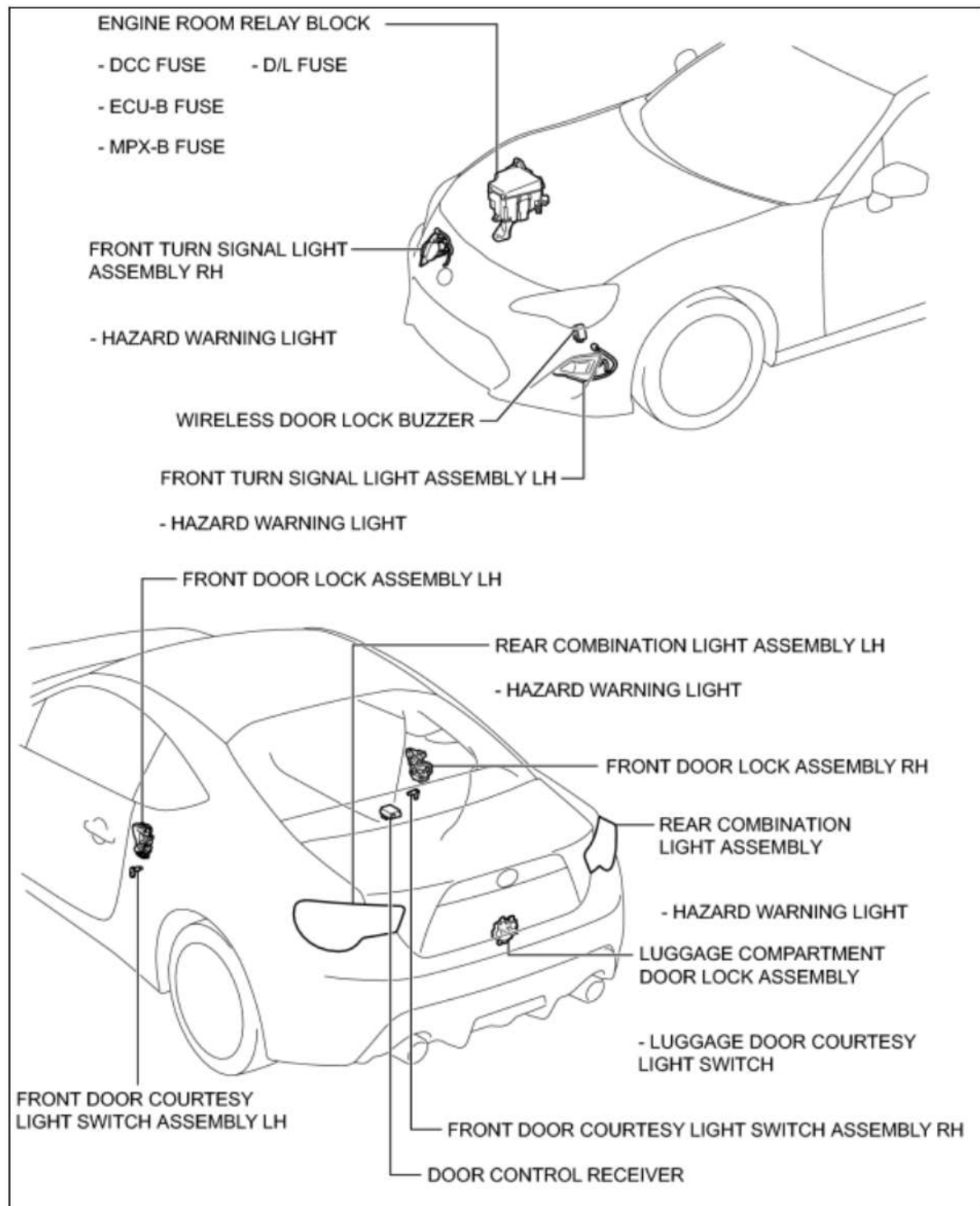
- (1) When all doors are locked and the unlock switch is pressed, check that the map light illuminates (when the light switch is in the DOOR position) and all doors are unlocked.



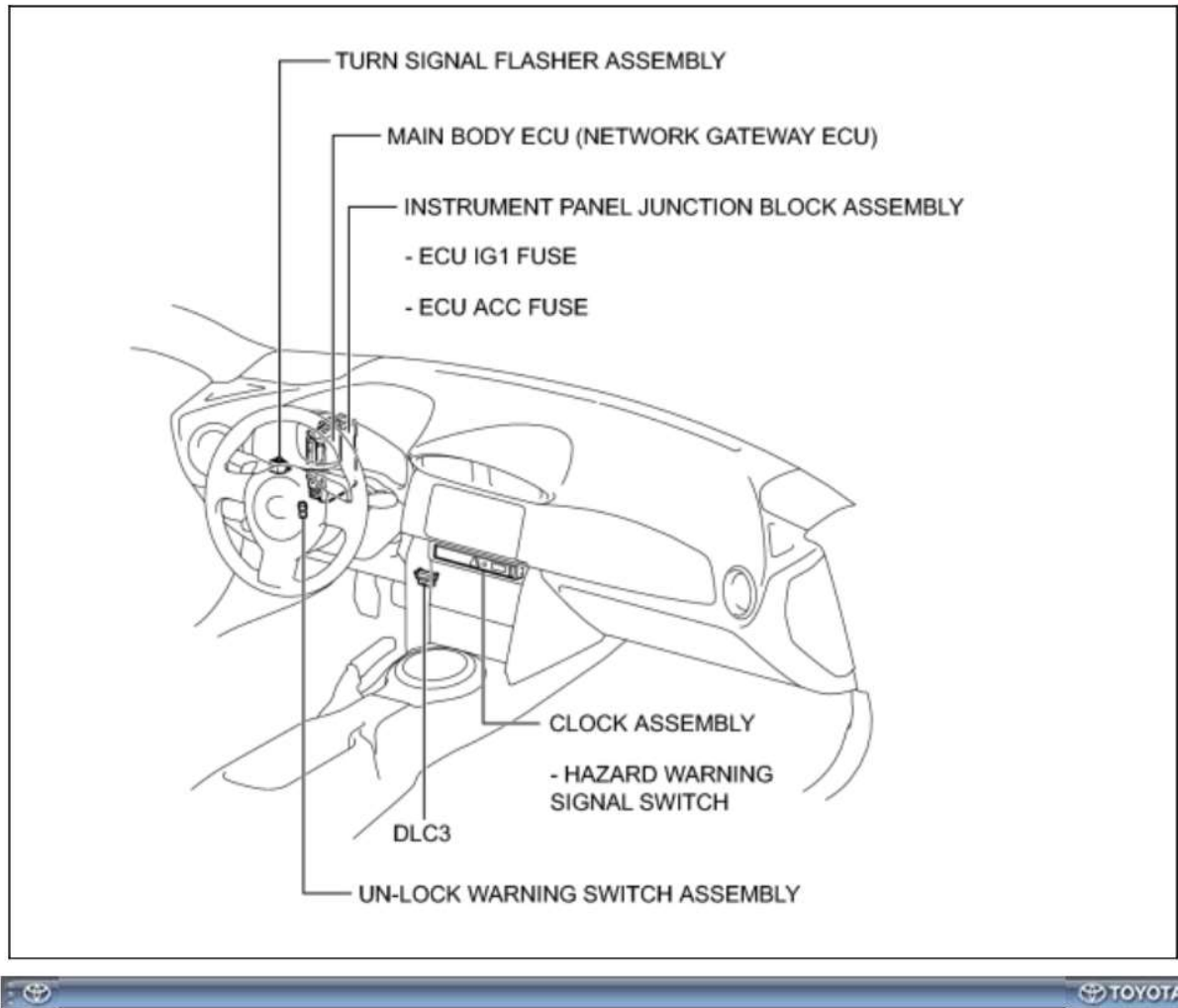
Last Modified: 3-27-2012	6.4 R	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000000XX302FX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM: PARTS LOCATION (2013 FR-S)		

PARTS LOCATION

ILLUSTRATION



ILLUSTRATION



Last Modified: 3-27-2012	6.4 T	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000000XX502MX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM: PROBLEM SYMPTOMS TABLE (2013 FR-S)		

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.

Wireless Door Lock Control

SYMPTOM	SUSPECTED AREA	SEE PAGE
Only wireless control function inoperative	Proceed to "Only wireless control function inoperative"	INFO
Only answer-back function does not operate normally	Proceed to "No answer-back"	INFO
The automatic lock function does not operate normally	Perform the operation check	INFO
	Wire harness or connector	-
	Unlock warning switch circuit	INFO
	Door courtesy switch circuit	INFO
	Main body ECU (network gateway ECU)	-
	Instrument panel junction block assembly	-
The illuminated entry function only does not operate	Perform the operation check	INFO
	Wire harness or connector	-
	Lighting system	INFO
	Main body ECU (network gateway ECU)	-
	Instrument panel junction block assembly	-
Only door ajar warning function does not operate	Perform the operation check	INFO
	Door courtesy switch circuit	INFO
	Main body ECU (network gateway ECU)	-
	Instrument panel junction block assembly	-
Only panic alarm function does not operate	Perform the operation check	INFO
	Lighting system (int) (interior lights)	INFO
	Lighting system (ext) (headlights, taillights, hazard lights)	INFO
	Horn system	INFO

	Wire harness or connector (vehicle horn - main body ECU (network gateway ECU))	-
	Main body ECU (network gateway ECU)	-
	Instrument panel junction block assembly	-
Only luggage compartment door open function does not operate	Perform the operation check	INFO
	Wire harness or connector	-
	Door control transmitter module set sub-assembly	INFO
	Main body ECU (network gateway ECU)	-



Last Modified: 3-27-2012	6.4 M	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM0000023D3038X
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM: REGISTRATION (2013 FR-S)		

REGISTRATION

HINT:

- Register the recognition code when replacing the door control transmitter or the door control receiver.
- The Add mode is used to retain the already registered codes while registering a new recognition codes. This mode is used when adding a transmitter. If the number of registered codes exceeds 7 the previously registered code will be cleared in order, starting from the code registered first.
- Rewrite mode is used to clear 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 clear all the registered codes and cancel the wireless door lock function. Use this mode when the transmitter is lost.
- All of the following registration procedures must be performed in order.

1. REGISTRATION OF RECOGNITION CODE (USING TECHSTREAM)

- Connect the Techstream to the DLC3.
- Turn the ignition switch to ON.
- Turn the Techstream on.
- Enter the following menus: Body Electrical / Main Body / Utility / Wireless Code Registration.
- Press both lock and unlock switches within 1 to 1.5 seconds.
- Press either switch for more than 1 second within 3 seconds.
- Perform either of the following to complete the registration of recognition codes:
 - Use a Techstream to send a completion command.
 - Disconnect the Techstream.
- Perform the following after registration is completed.
 - Perform the wireless door lock control operation check  .

HINT:

If the wireless door lock control does not operate, perform the registration procedure again.



Last Modified: 3-27-2012	6.4 D	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000000XX8043X
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM: SYSTEM DESCRIPTION (2013 FR-S)		

SYSTEM DESCRIPTION

1. WIRELESS DOOR CONTROL SYSTEM DESCRIPTION

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

- The door control receiver performs the code identification procedure and the main body ECU (network gateway ECU) operates the door lock control. A serial data link is provided for communication between the receiver and main body ECU (network gateway ECU).
- A key-integrated type transmitter is used and it contains the following 4 switches: the door lock switch, door unlock switch, luggage open switch and panic switch.

2. FUNCTION OF MAIN COMPONENTS

COMPONENT	FUNCTION
Door control transmitter module set sub-assembly	• Has lock, unlock, luggage open and panic switches. • Transmits weak radio waves (recognition codes and function codes) to the door control receiver. • Illuminates indicator light (LED) during transmission.
Door control receiver	Receives weak radio waves from the door control transmitter module set sub-assembly and sends them to the main body ECU (network gateway ECU).
• Front door courtesy light switch LH/RH • Luggage door courtesy light switch	• Turns on when a door is opened and turns off when it is closed. • Outputs door status signals (open or closed) to the main body ECU (network gateway ECU).
• Front door lock assembly LH • Front door lock assembly RH	Built-in motor locks or unlocks door.
Main body ECU (network gateway 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

(a) The door control transmitter module set sub-assembly has door lock switch, door unlock switch, luggage open switch and panic switch. Operating these switches activates each function. The wireless door lock control system has the following functions:

HINT:

The default setting of the functions are on. Some of these functions can be customized INFO.

FUNCTION	OUTLINE
All door lock function	Pressing the lock switch locks all doors.
All door unlock function (Unlock 2 operation)	Pressing the unlock switch twice within 5 seconds unlocks all the doors after the driver door is unlocked.
Luggage compartment door open	Pressing the luggage door open switch of the door control transmitter module set sub-assembly for longer than about 0.8 seconds opens the luggage compartment door.
Answer-back function (Hazard warning light)	Hazard warning lights flash once when doors are locked, and flash twice when doors are unlocked to indicate that the request has been completed.
Answer-back function (Wireless door lock buzzer))	Wireless door lock buzzer sound once when doors are locked, and sound twice when doors are unlocked to indicate that the request has been completed.
Panic alarm function	Pressing the panic switch of the door control transmitter module set sub-assembly for longer than about 0.8 seconds causes the following alarms to activate: • Sound the vehicle horns. • Blinks the headlights, hazard warning lights and taillights. • Illuminates the interior lights (when the interior light door switch on). While the panic alarm is operating, pressing any switch of the door control transmitter cancels the alarm operation.
Vehicle Position Sensing Function	The vehicle position sensing function is a function that sounds the vehicle horn and flashes the hazard warning lights by operating the door control transmitter module set sub-assembly in order to indicate the vehicle's position to the user.
Door ajar warning function	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.
Automatic locking function	If no doors are opened within 30 seconds after being unlocked by wireless door lock control, all doors are locked again automatically.
Illuminated entry function	When all the doors are locked, pressing unlock causes the interior light to come on simultaneously with the unlock operation.
Self-diagnostic function	The system enters self-diagnostic mode under the following conditions. • If the door control receiver receives normal radio waves from the door control transmitter module set sub-assembly when the system is in diagnostic mode, it flashes the interior light in a normal pattern that corresponds to the function of each switch.
Transmitter	

recognition code registration function	Enables 4 modes for registering (writing and storing) transmitter recognition codes in EEPROM, built into door control receiver.
---	--

4. TRANSMITTER RECOGNITION CODE REGISTRATION FUNCTION

- (a) The table below shows the 4 ID registration function modes by which up to 7 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 7 the oldest registered code is cleared first.
Rewrite mode	Clears 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 are stored.
Prohibition mode	Clears 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 either of the following conditions is met:

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

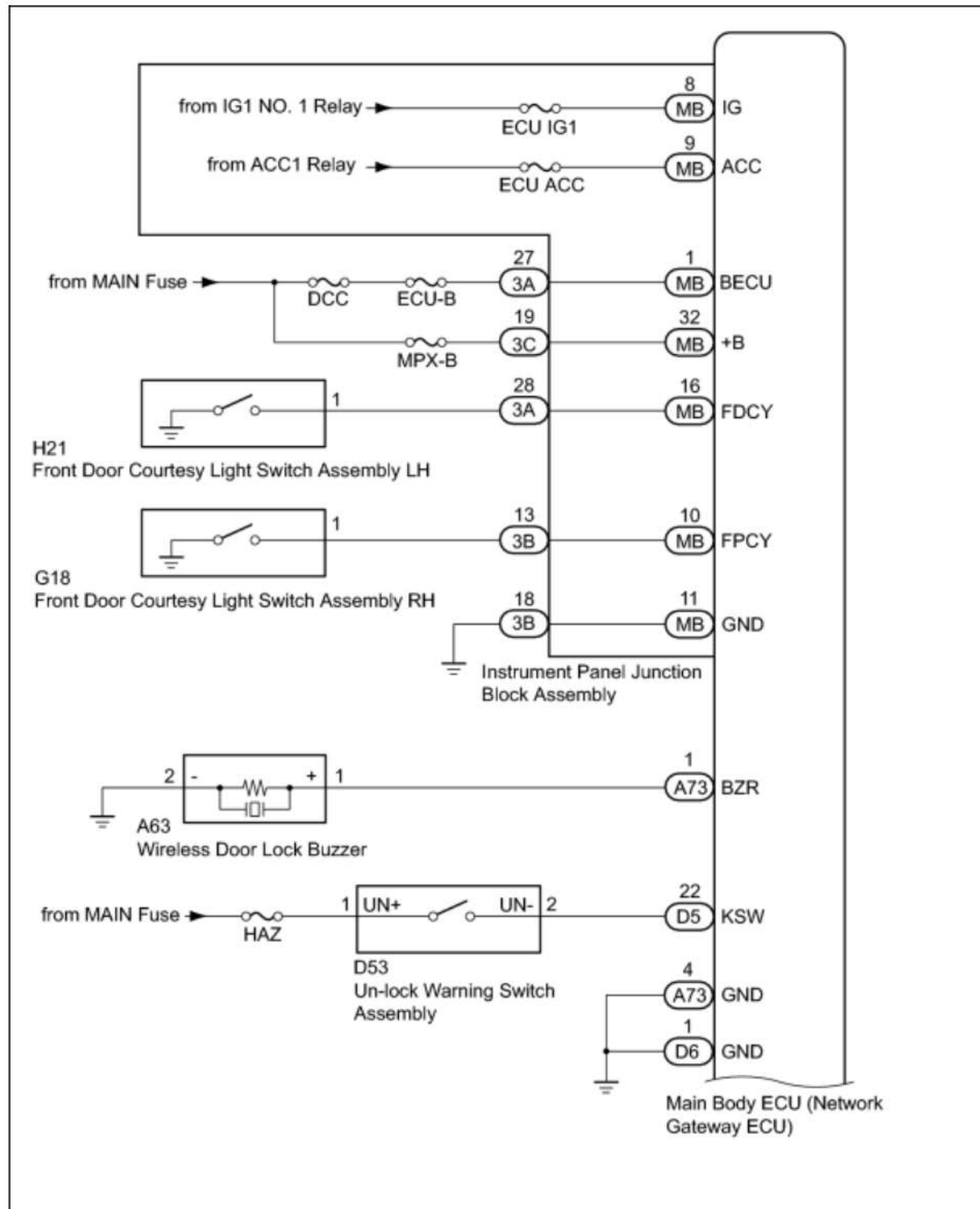
- (b) Unlock function will not operate when the following condition is met:

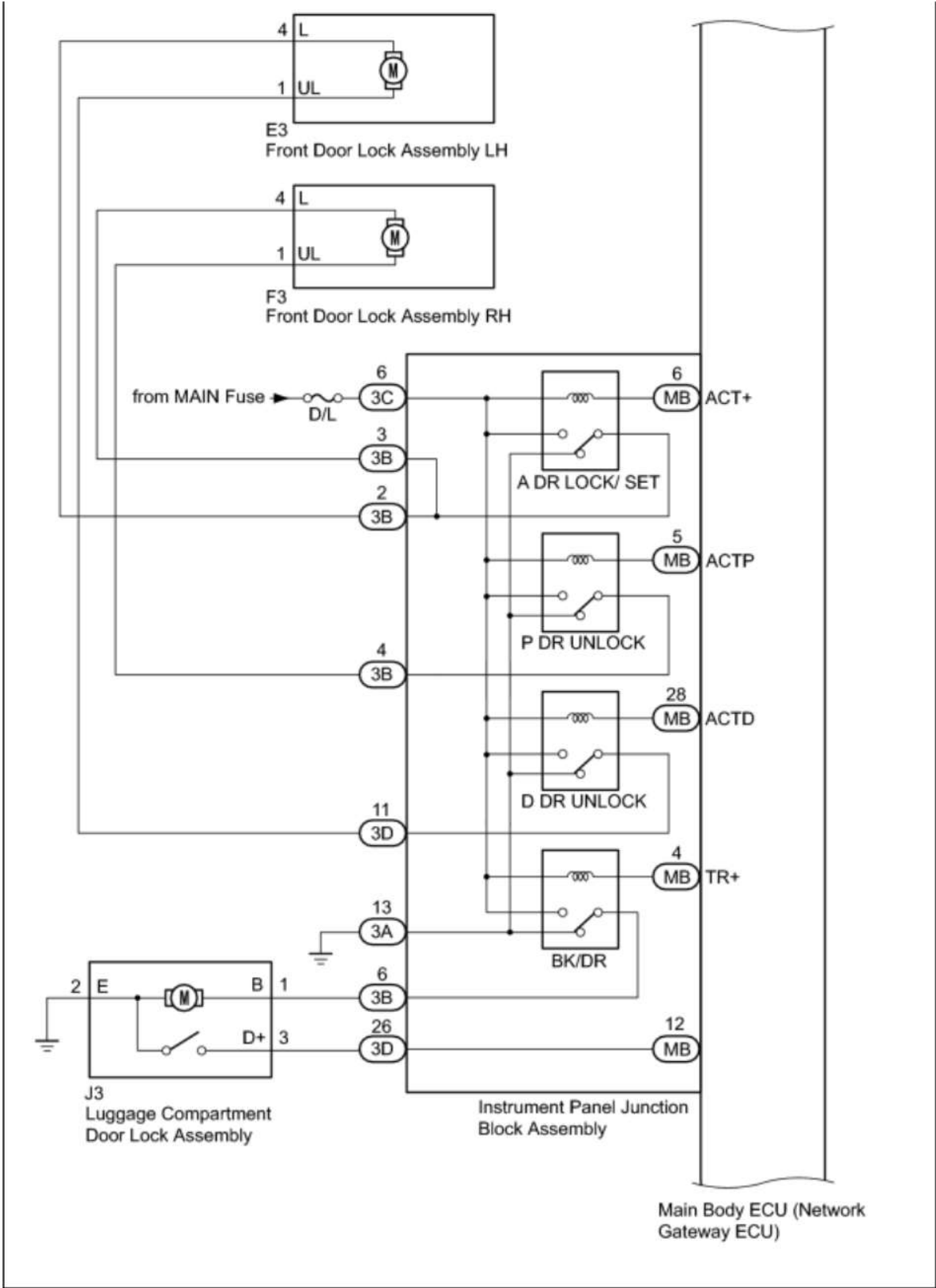
- The key is inserted in the ignition key cylinder.



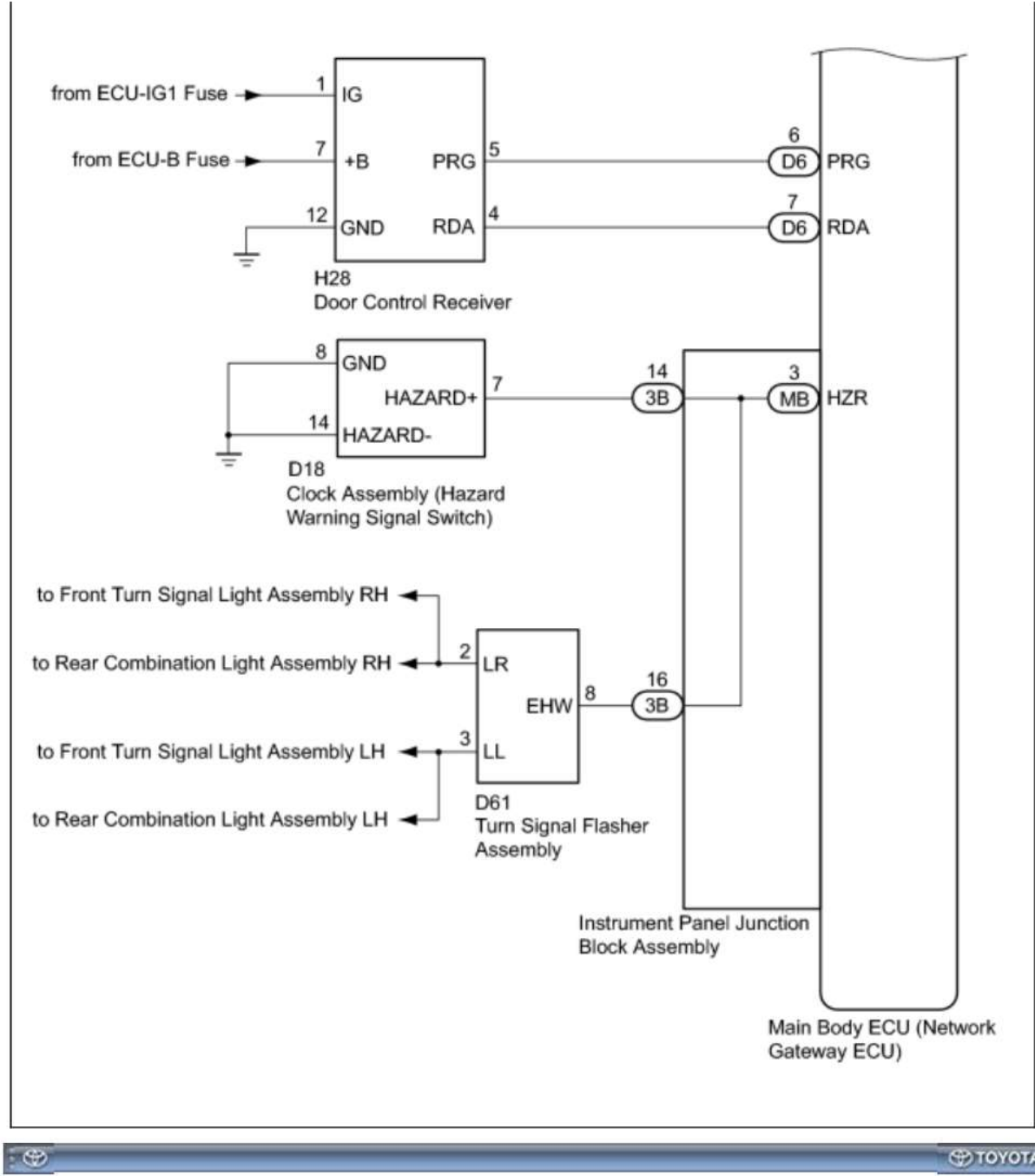
Last Modified: 3-27-2012	6.4 U	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000000XXA039X
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM: SYSTEM DIAGRAM (2013 FR-S)		

SYSTEM DIAGRAM





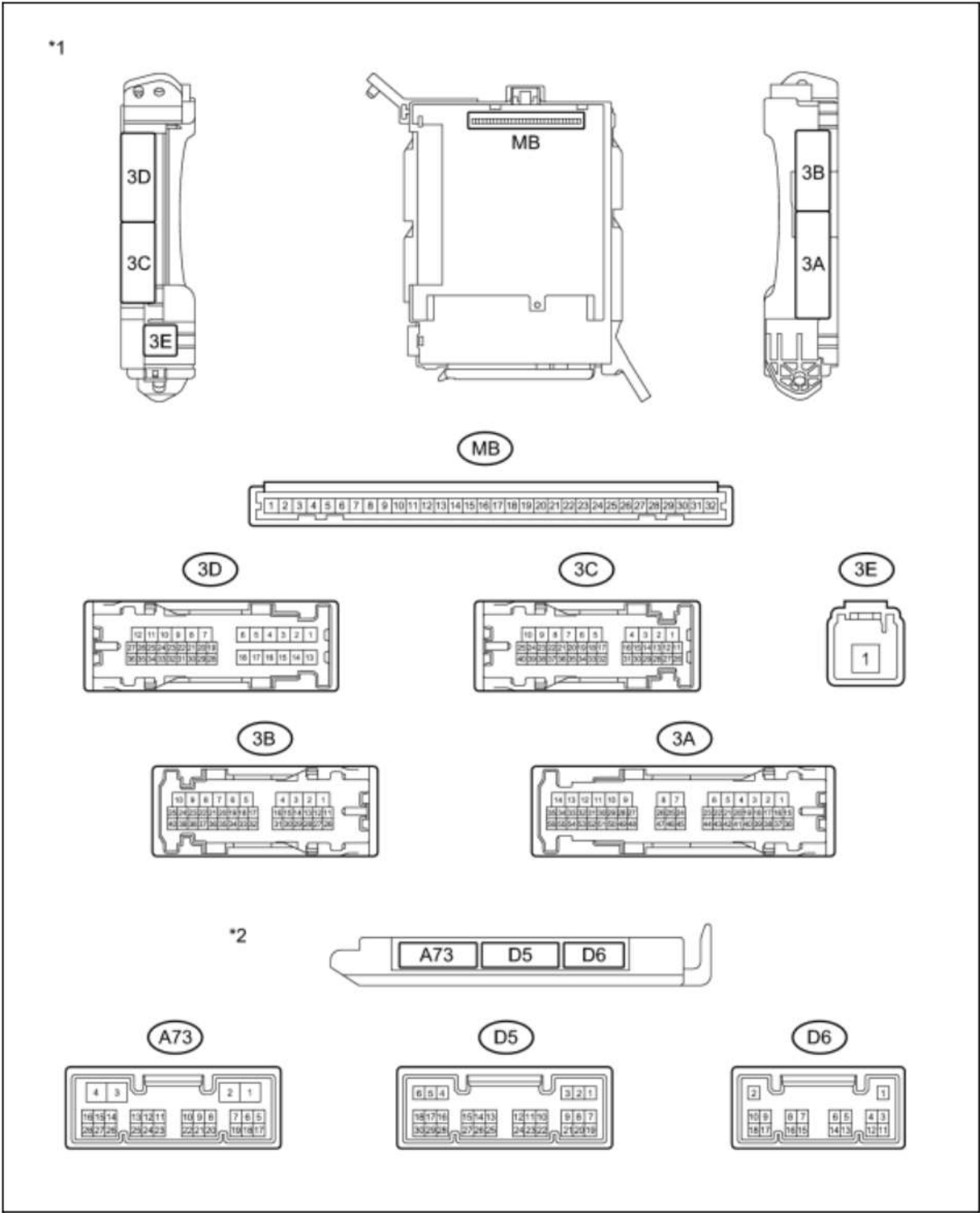
cardiagn.com



Last Modified: 3-27-2012	6.4 U	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000001MAP01XX
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM: TERMINALS OF ECU (2013 FR-S)		

TERMINALS OF ECU

1. CHECK INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY AND MAIN BODY ECU (NETWORK GATEWAY ECU)



Text in Illustration

*1	Instrument Panel Junction Block Assembly	*2	Main Body ECU (Network Gateway ECU)
----	--	----	-------------------------------------

- (a) Remove the main body ECU (network gateway ECU) from the instrument panel junction block assembly.
- (b) Disconnect the D5, D6 and A73 main body ECU (network gateway ECU) connectors.
- (c) Measure the resistance and voltage between each terminal of the wire harness side connectors and body ground.

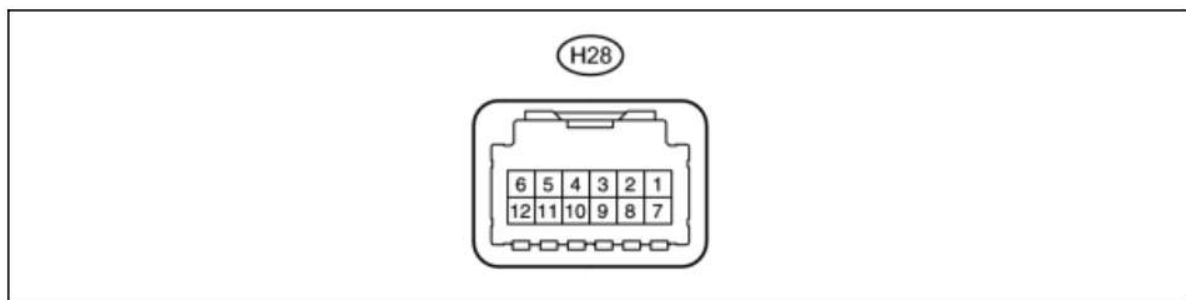
TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
MB-1 (BECU) - Body ground	None - Body ground	Battery power supply	Always	11 to 14 V
MB-8 (IG) - Body ground	None - Body ground	Ignition switch power supply	Ignition switch ON	11 to 14 V
			Ignition switch off	Below 1 V
MB-9 (ACC) - Body ground	None - Body ground	ACC power supply	Ignition switch ACC	11 to 14 V
			Ignition switch off	Below 1 V
MB-11 (GND) - Body ground	None - Body ground	Ground	Always	Below 1 Ω
MB-32 (+B) - Body ground	None - Body ground	Battery power supply	Always	11 to 14 V
D5-22 (KSW) - Body ground	BR - Body ground	Unlock warning switch input	No key in ignition key cylinder (off)	Below 1 V
			Key inserted ignition key cylinder (on)	11 to 14 V
D6-1 (GND) - Body ground	B - Body ground	Ground	Always	Below 1 Ω
A73-4 (GND) - Body ground	B-Y - Body ground	Ground	Always	Below 1 Ω

- (d) Reconnect the D5, D6 and A73 main body ECU (network gateway ECU) connectors.
- (e) Install the main body ECU (network gateway ECU) to the instrument panel junction block assembly.
- (f) Measure the voltage and resistance, according to the valve(s) in the table below.

TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
3A-28 - Body ground	Y - Body ground	Driver side door courtesy light switch input	Driver side door open	Below 1 V
			Driver side door closed	11 to 14 V
3B-13 - Body ground	L - Body ground	Passenger side door courtesy light switch input	Passenger side door open	Below 1 V
			Passenger side door closed	11 to 14 V
3D-26 -	SB -	Luggage compartment	Luggage compartment door open	Below 1 V

Body ground	Body ground	door courtesy light switch input	Luggage compartment door closed	11 to 14 V
3B-2 - Body ground	Y - Body ground	Door lock motor lock drive output (for driver side)	Door control switch not pushed	Below 1 V
			Lock side of door control switch pushed	11 to 14 V
3B-3 - Body ground	L - Body ground	Door lock motor lock drive output (for passenger side)	Door control switch not pushed	Below 1 V
			Lock side of door control switch pushed	11 to 14 V
3D-11 - Body ground	R-G - Body ground	Door lock motor unlock drive output (for driver side)	Door control switch not pushed	Below 1 V
			Unlock side of door control switch pushed	11 to 14 V
3B-4 - Body ground	L-W - Body ground	Door lock motor unlock drive output (for passenger side)	Door control switch not pushed	Below 1 V
			Unlock side of door control switch pushed	11 to 14 V
3B-6 - Body ground	G - Body ground	Door lock motor lock drive output (for luggage compartment door)	Luggage door open button of door control transmitter module set sub-assembly not pressed	Below 1 V
			Luggage door open button of door control transmitter module set sub-assembly pressed	11 to 14 V
A73-1 - Body ground	V - Body ground	Wireless door lock buzzer signal	Wireless door lock buzzer off	Below 1 V
			Wireless door lock buzzer on	Pulse generation
D6-6 (PRG) - Body ground	R - Body ground	Signal output to door control receiver	Key inserted in ignition key cylinder → Key pulled out of ignition key cylinder	11 to 14 V → Pulse generation → 11 to 14 V
D6-7 (RDA) - Body ground	V - Body ground	Signal input from door control receiver	Ignition switch off, all doors closed and transmitter switch not pressed	11 to 14 V
			Ignition switch off, all doors closed and transmitter switch pressed	Pulse generation

2. CHECK DOOR CONTROL RECEIVER



- Disconnect the H28 door control receiver connector.
- Measure the resistance and voltage according to the value(s) in the table below.

--	--	--	--	--

TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
H28-1 (IG) - Body ground	W - Body ground	Ignition switch power supply	Ignition switch ON	11 to 14 V
			Ignition switch off	Below 1 V
H28-7 (+B) - Body ground	Y-R - Body ground	Battery power supply	Always	11 to 14 V
H28-12 (GND) - Body ground	B - Body ground	Ground	Always	Below 1 Ω

(c) Reconnect the H28 door control receiver connector.

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

TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
H28-5 (PRG) - Body ground	P - Body ground	Signal input from main body ECU (network gateway ECU)	Key inserted in ignition key cylinder → Key pulled out of ignition key cylinder	11 to 14 V → Pulse generation → 11 to 14 V
H28-4 (RDA) - Body ground	R - Body ground	Signal output to main body ECU (network gateway ECU)	Ignition switch off, all doors closed and door control transmitter switch not pressed	11 to 14 V
			Ignition switch off, all doors closed and door control transmitter switch pressed	Pulse generation

