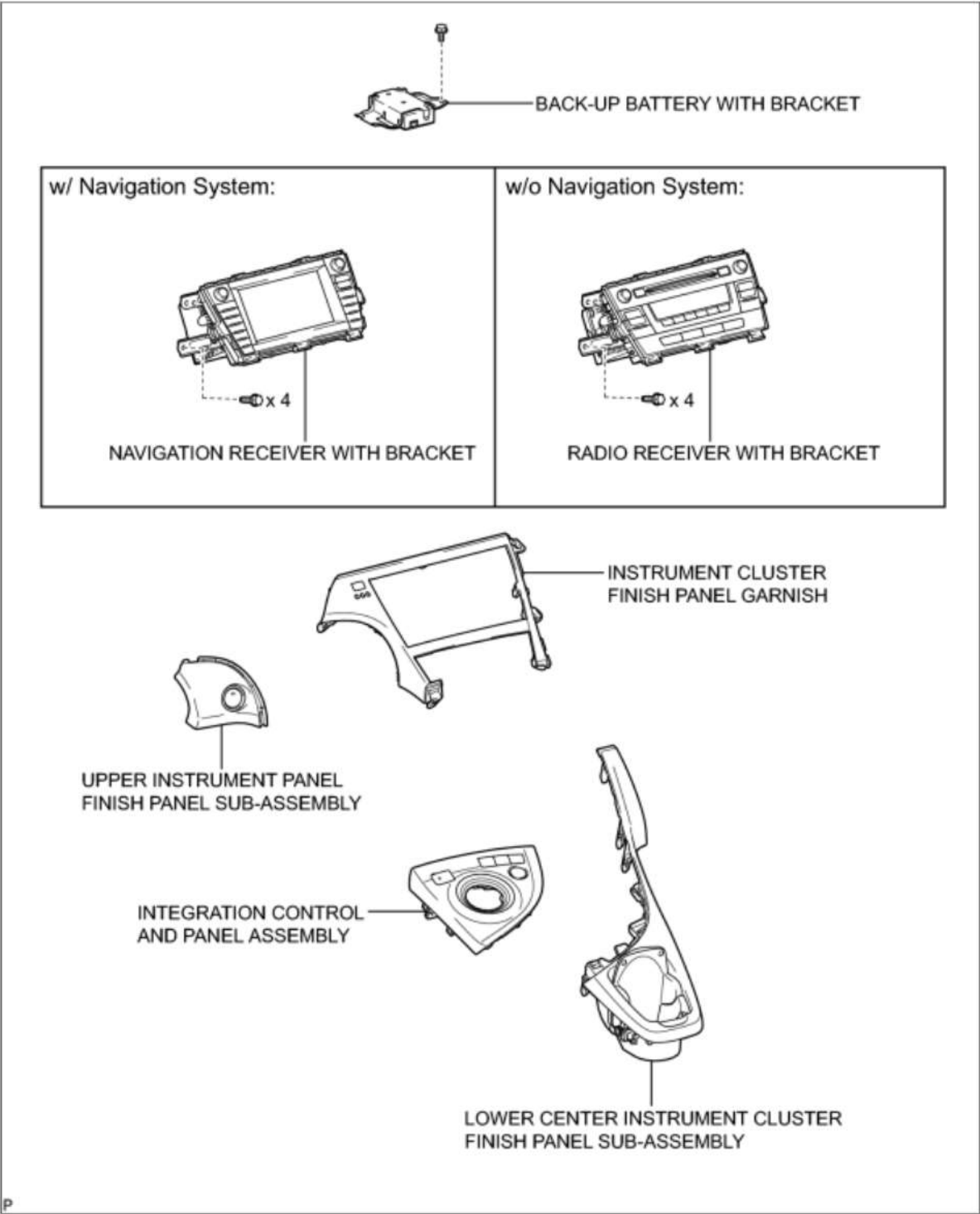


COMPONENTS

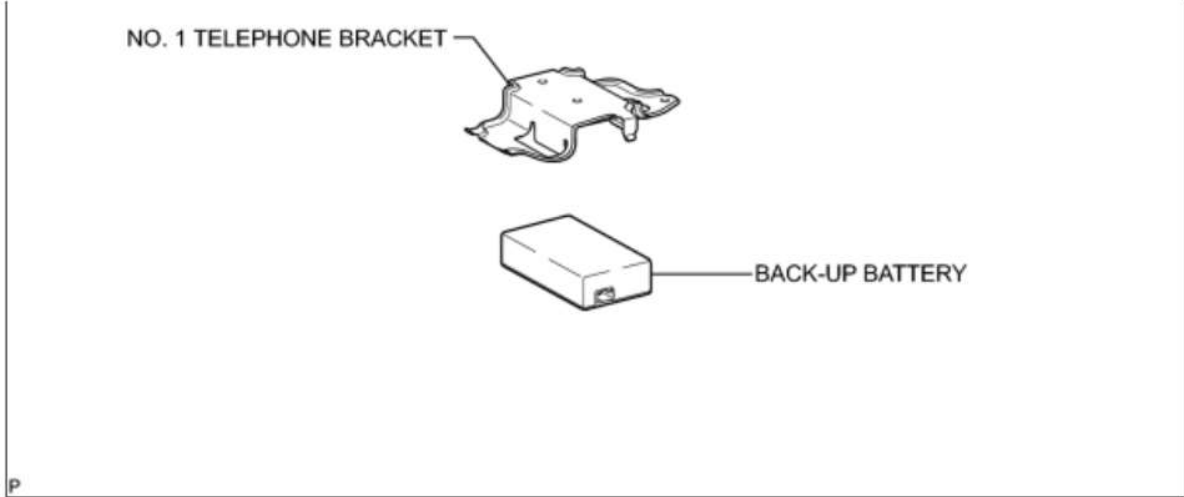
ILLUSTRATION



ILLUSTRATION

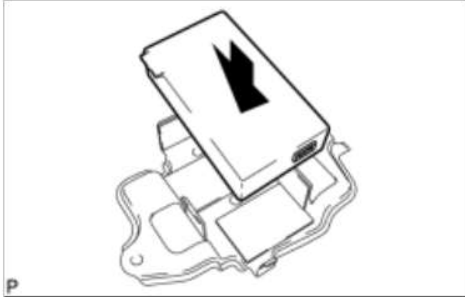


CELLULAR COMMUNICATION: BACK-UP BATTERY: COMPONENTS (2010 Prius)

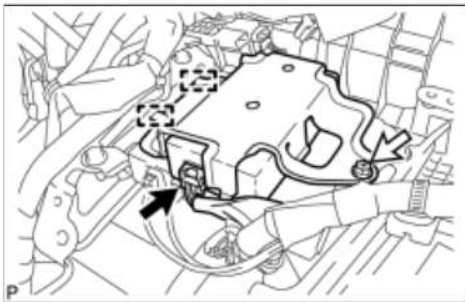


P

CELLULAR COMMUNICATION: BACK-UP BATTERY: INSTALLATION (2010 Prius)

INSTALLATION**1. INSTALL NO. 1 TELEPHONE BRACKET****2. INSTALL BACK-UP BATTERY**

(a) Install the back-up battery to the No. 1 telephone bracket as shown in the illustration.

3. INSTALL BACK-UP BATTERY WITH BRACKET

(a) Engage the 2 guides.

(b) Install the back-up battery with bracket with the bolt.

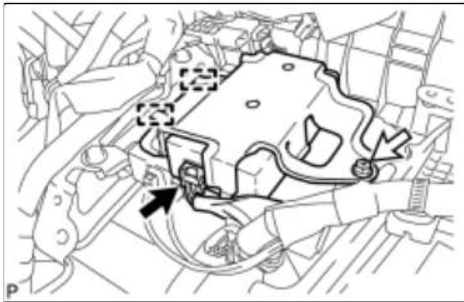
(c) Connect the connector.

4. INSTALL RADIO RECEIVER WITH BRACKET (w/o Navigation System) INFO**5. INSTALL NAVIGATION RECEIVER WITH BRACKET (w/ Navigation System)** INFO**6. INSTALL UPPER INSTRUMENT PANEL FINISH PANEL SUB-ASSEMBLY** INFO**7. INSTALL INSTRUMENT CLUSTER FINISH PANEL GARNISH** INFO**8. INSTALL LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY** INFO**9. INSTALL INTEGRATION CONTROL AND PANEL ASSEMBLY** INFO

CELLULAR COMMUNICATION: BACK-UP BATTERY: REMOVAL (2010 Prius)

REMOVAL

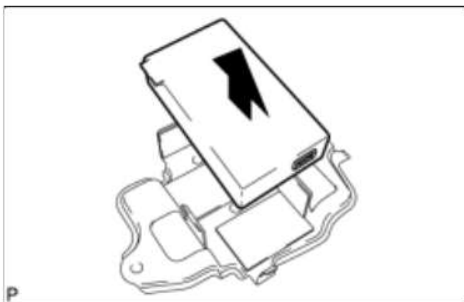
1. REMOVE INTEGRATION CONTROL AND PANEL ASSEMBLY INFO
2. REMOVE LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY INFO
3. REMOVE INSTRUMENT CLUSTER FINISH PANEL GARNISH INFO
4. REMOVE UPPER INSTRUMENT PANEL FINISH PANEL SUB-ASSEMBLY INFO
5. REMOVE RADIO RECEIVER WITH BRACKET (w/o Navigation System) INFO
6. REMOVE NAVIGATION RECEIVER WITH BRACKET (w/ Navigation System) INFO
7. REMOVE BACK-UP BATTERY WITH BRACKET



(a) Disconnect the connector.

(b) Remove the bolt.

(c) Disengage the 2 guides and remove the back-up battery with bracket

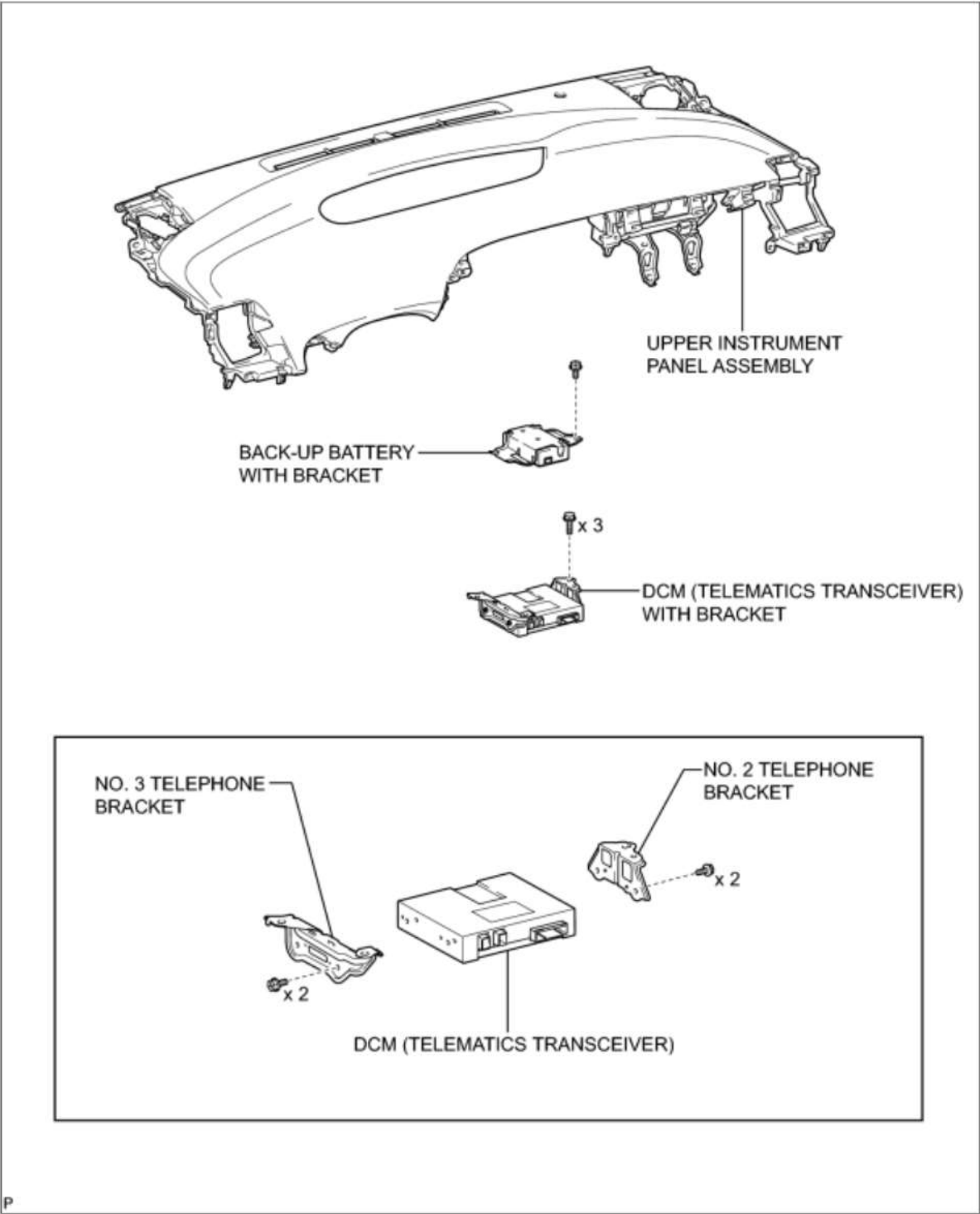
8. REMOVE BACK-UP BATTERY

(a) Remove the back-up battery from the No. 1 telephone bracket as shown in the illustration.

9. REMOVE NO. 1 TELEPHONE BRACKET

COMPONENTS

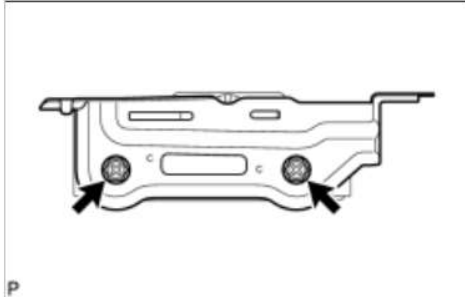
ILLUSTRATION



INSTALLATION

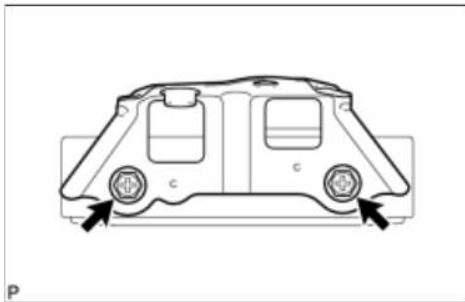
1. INSTALL DCM (TELEMATICS TRANSCEIVER)

2. INSTALL NO. 3 TELEPHONE BRACKET



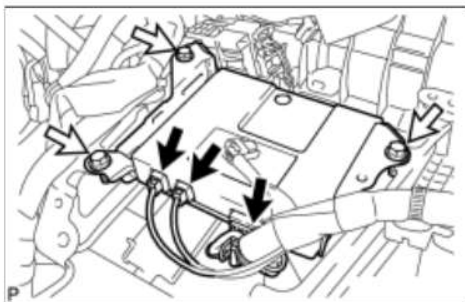
(a) Install the No. 3 telephone bracket with the 2 screws.

3. INSTALL NO. 2 TELEPHONE BRACKET



(a) Install the No. 2 telephone bracket with the 2 screws.

4. INSTALL DCM (TELEMATICS TRANSCEIVER) WITH BRACKET



(a) Install the DCM (telematics transceiver) with bracket with the 3 bolts.

(b) Connect the 3 connectors.

5. INSTALL BACK-UP BATTERY WITH BRACKET INFO

6. INSTALL UPPER INSTRUMENT PANEL ASSEMBLY

HINT:

Refer to the procedure from Install Upper Instrument Panel Assembly INFO .

7. DCM ACTIVATION

CELLULAR COMMUNICATION: DCM(TELEMATICS TRANSCEIVER): INSTALLATION (2010 Prius)

7. DCM ACTIVATION

- (a) When replacing the DCM (telematics transceiver), perform DCM activation  .

REMOVAL

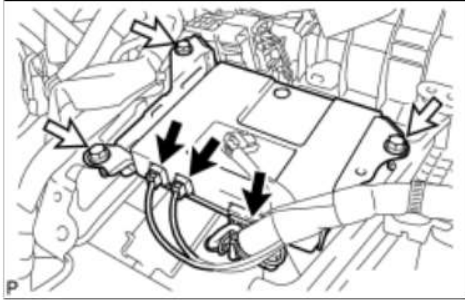
1. REMOVE UPPER INSTRUMENT PANEL ASSEMBLY

HINT:

Refer to the procedure up to Remove Upper Instrument Panel Assembly INFO.

2. REMOVE BACK-UP BATTERY WITH BRACKET INFO

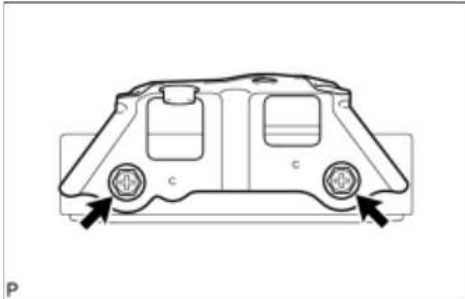
3. REMOVE DCM (TELEMATICS TRANSCEIVER) WITH BRACKET



(a) Disconnect the 3 connectors.

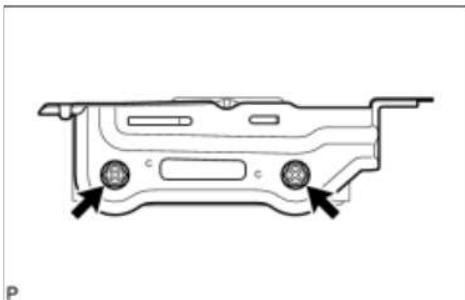
(b) Remove the 3 bolts and DCM (telematics transceiver) with bracket.

4. REMOVE NO. 2 TELEPHONE BRACKET



(a) Remove the 2 screws and No. 2 telephone bracket.

5. REMOVE NO. 3 TELEPHONE BRACKET

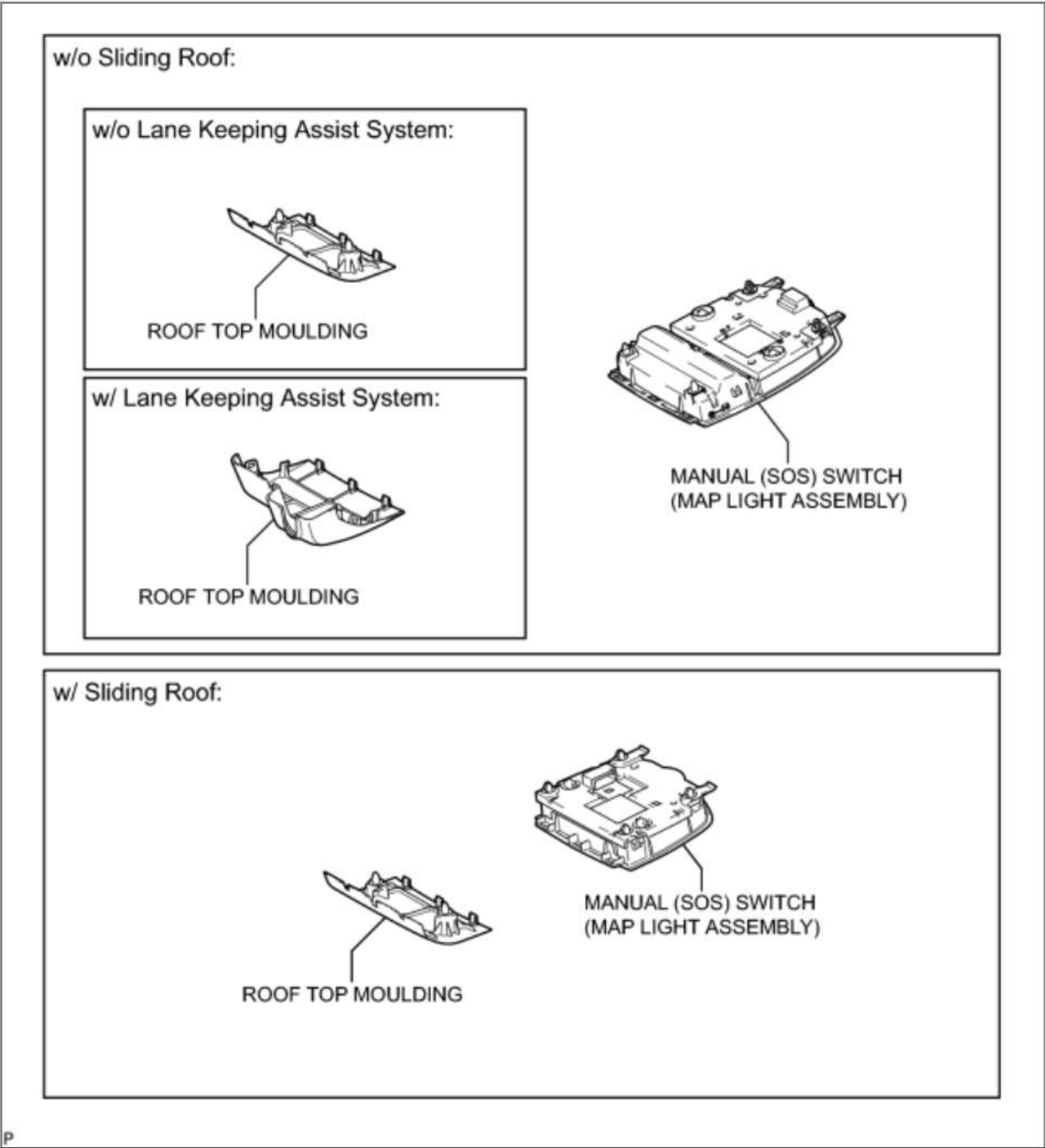


(a) Remove the 2 screws and No. 3 telephone bracket.

6. REMOVE DCM (TELEMATICS TRANSCEIVER)

COMPONENTS

ILLUSTRATION



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INSTALLATION

1. INSTALL MANUAL (SOS) SWITCH (MAP LIGHT ASSEMBLY) (w/o Sliding Roof) 
2. INSTALL MANUAL (SOS) SWITCH (MAP LIGHT ASSEMBLY) (w/ Sliding Roof) 
3. INSTALL ROOF TOP MOULDING (w/o Lane Keeping Assist System) 
4. INSTALL ROOF TOP MOULDING (w/ Lane Keeping Assist System) 

CELLULAR COMMUNICATION: MANUAL(SOS)SWITCH: REMOVAL (2010 Prius)

REMOVAL

1. REMOVE ROOF TOP MOULDING (w/o Lane Keeping Assist System) 
2. REMOVE ROOF TOP MOULDING (w/ Lane Keeping Assist System) 
3. REMOVE MANUAL (SOS) SWITCH (MAP LIGHT ASSEMBLY) (w/o Sliding Roof) 
4. REMOVE MANUAL (SOS) SWITCH (MAP LIGHT ASSEMBLY) (w/ Sliding Roof) 

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: PRECAUTION (2010 Prius)

PRECAUTION

1. WHEN AUTOMATIC COLLISION NOTIFICATION HAS ACTIVATED

- (a) Perform "ACN CALL END" with Techstream to terminate ACN (Automatic Collision Notification) with the call center  .
- (b) The BUB (Back-Up Battery) must be replaced.

2. WHEN DISCONNECTING CONNECTORS FROM TELEMATICS DATA COMMUNICATION MODULE (DCM (TELEMATICS TRANSCEIVER))

- (a) The power switch must be off.

3. WHEN REPLACING THE DCM (TELEMATICS TRANSCEIVER)

- (a) After installing a new DCM (Telematics Transceiver), perform "DCM ACTIVATION" with the Techstream  . This allows the Telematics service provider to register the new DCM (Telematics Transceiver) and to delete the old DCM (Telematics Transceiver) information from their database.

NOTICE:

Do not swap the DCM (Telematics Transceiver) with one from another vehicle.

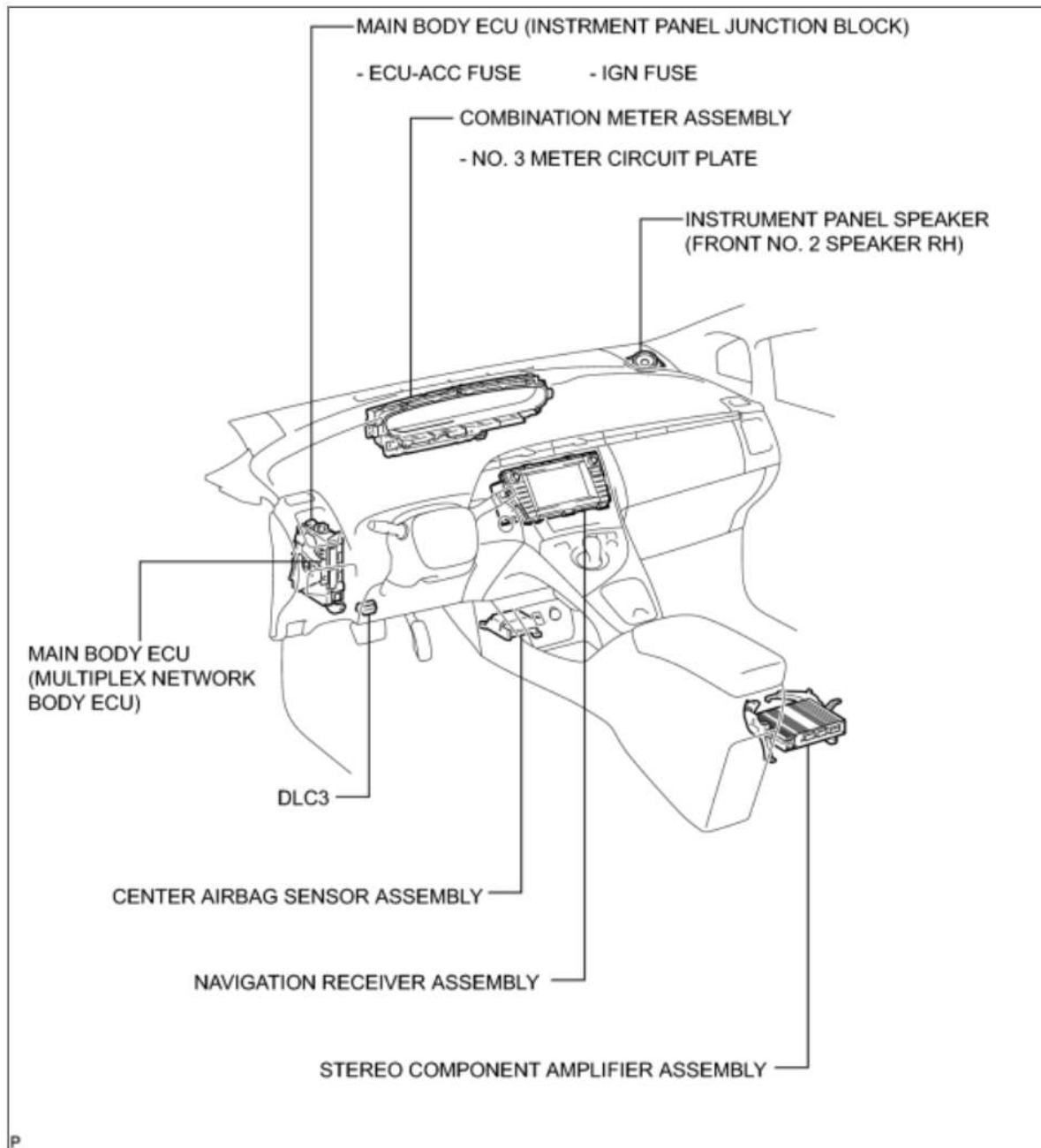
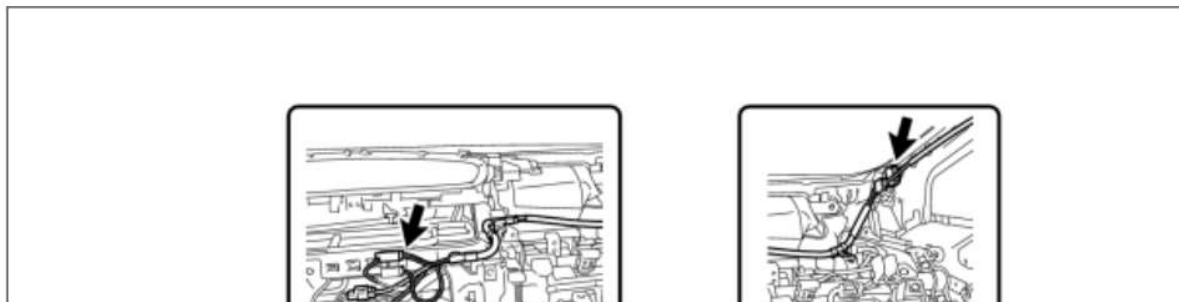
4. WHEN UNABLE TO CONTACT WITH CALL CENTER BUT NO DTC

- (a) This may occur when the cellular signal strength was very weak. Check "DCM OPERATION HISTORY" with the Techstream  .

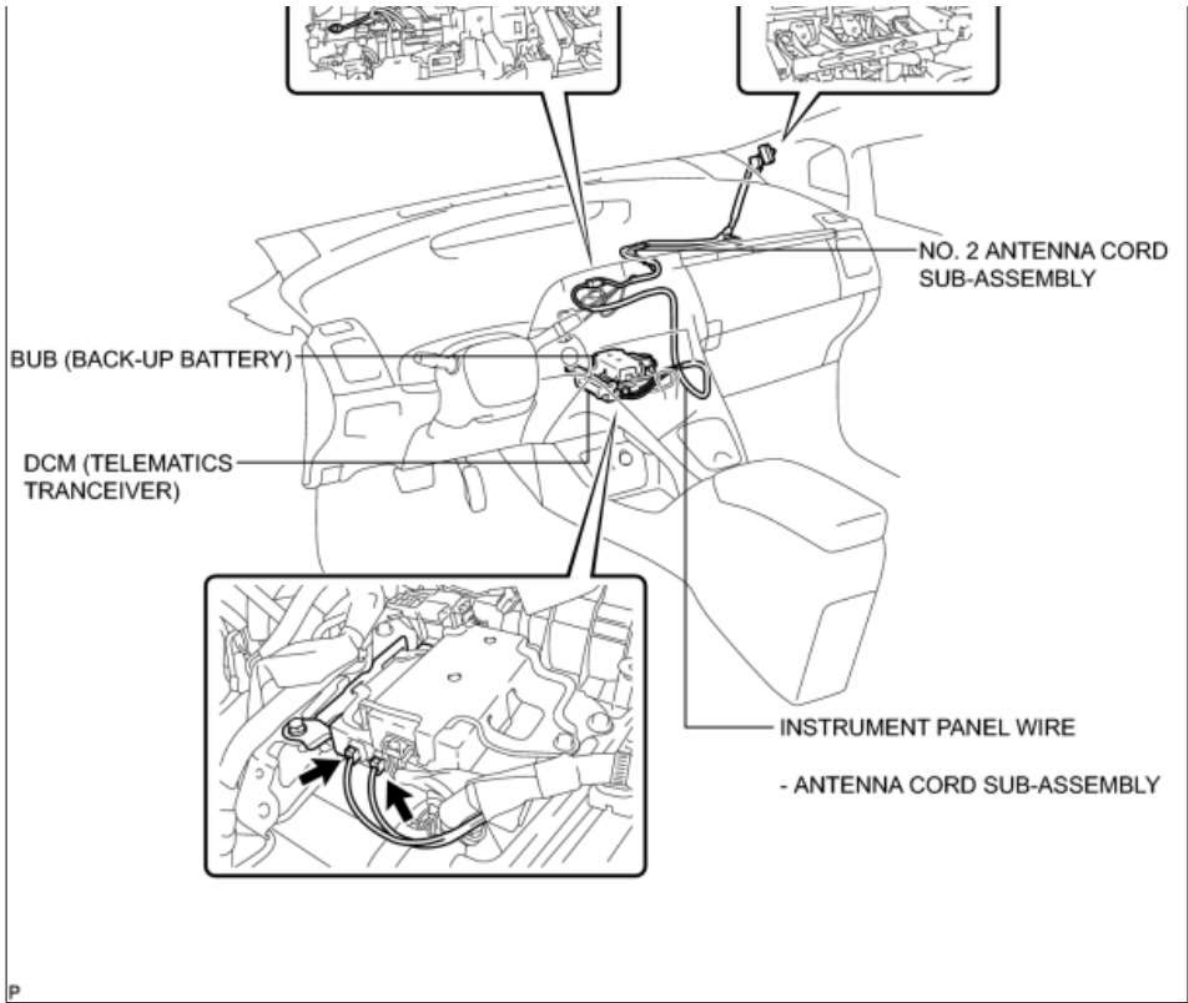
5. WHEN DIAGNOSING DCM (TELEMATICS TRANSCEIVER)

- (a) While attempting to diagnose the DCM (Telematics Transceiver), do not use a DCM (Telematics Transceiver) from another vehicle. Each DCM (Telematics Transceiver) is registered to a specific VIN and should not be tested in another vehicle.

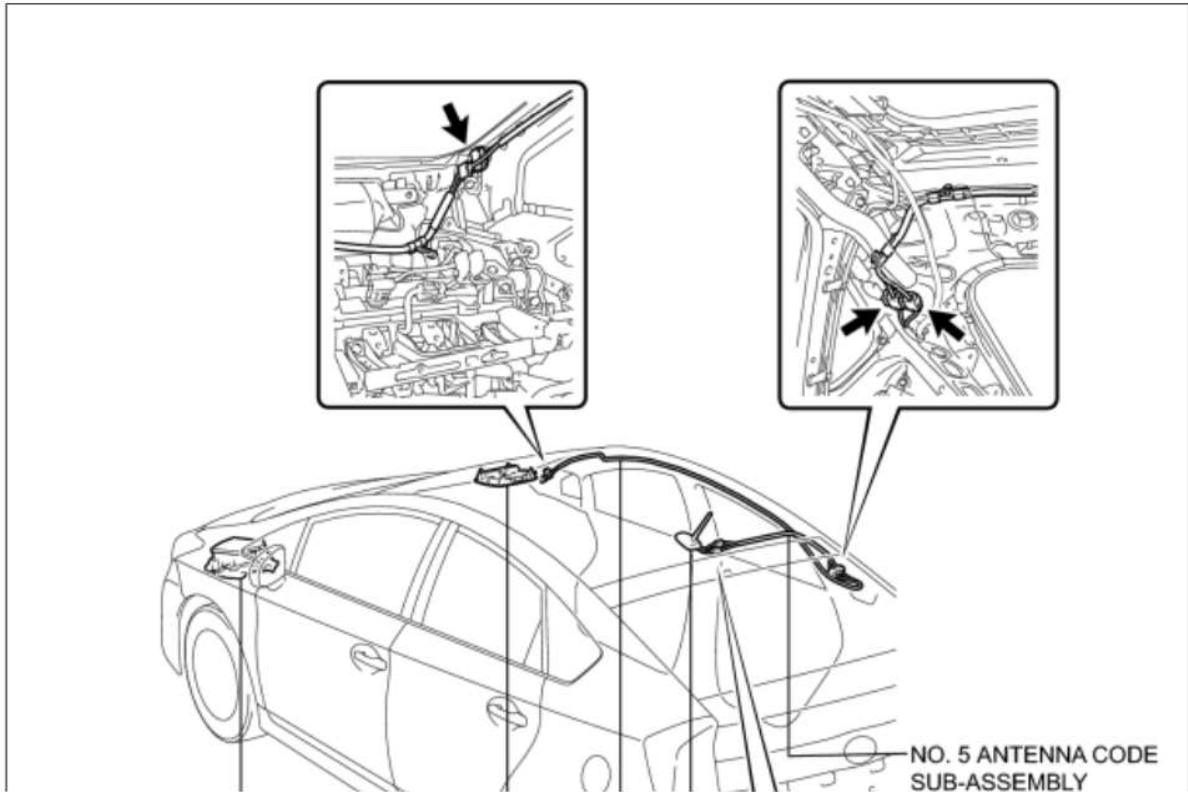
CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: PARTS LOCATION (2010 Prius)

PARTS LOCATION**ILLUSTRATION****ILLUSTRATION**

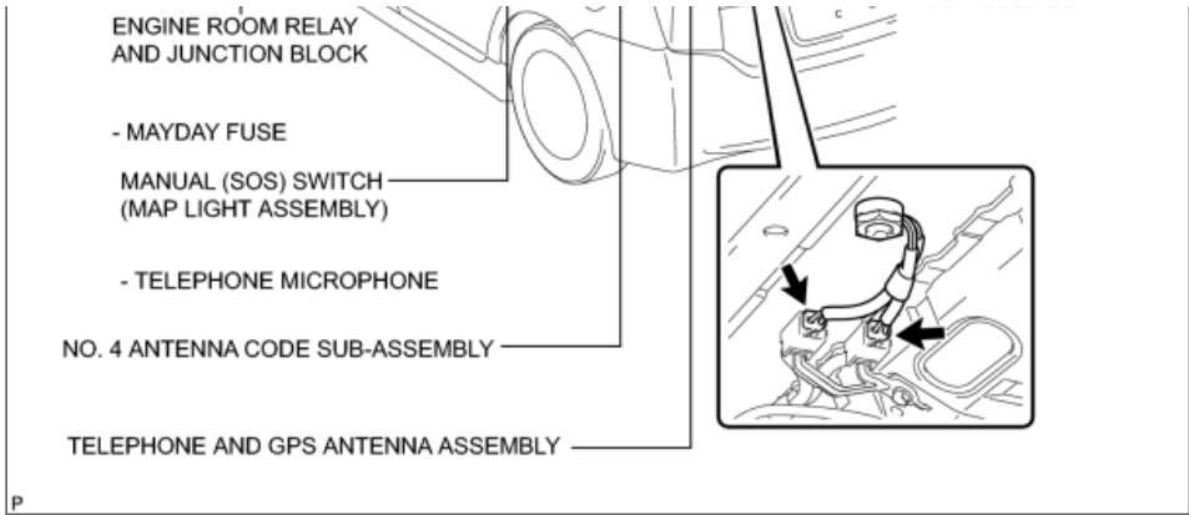
CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: PARTS LOCATION (2010 Prius)



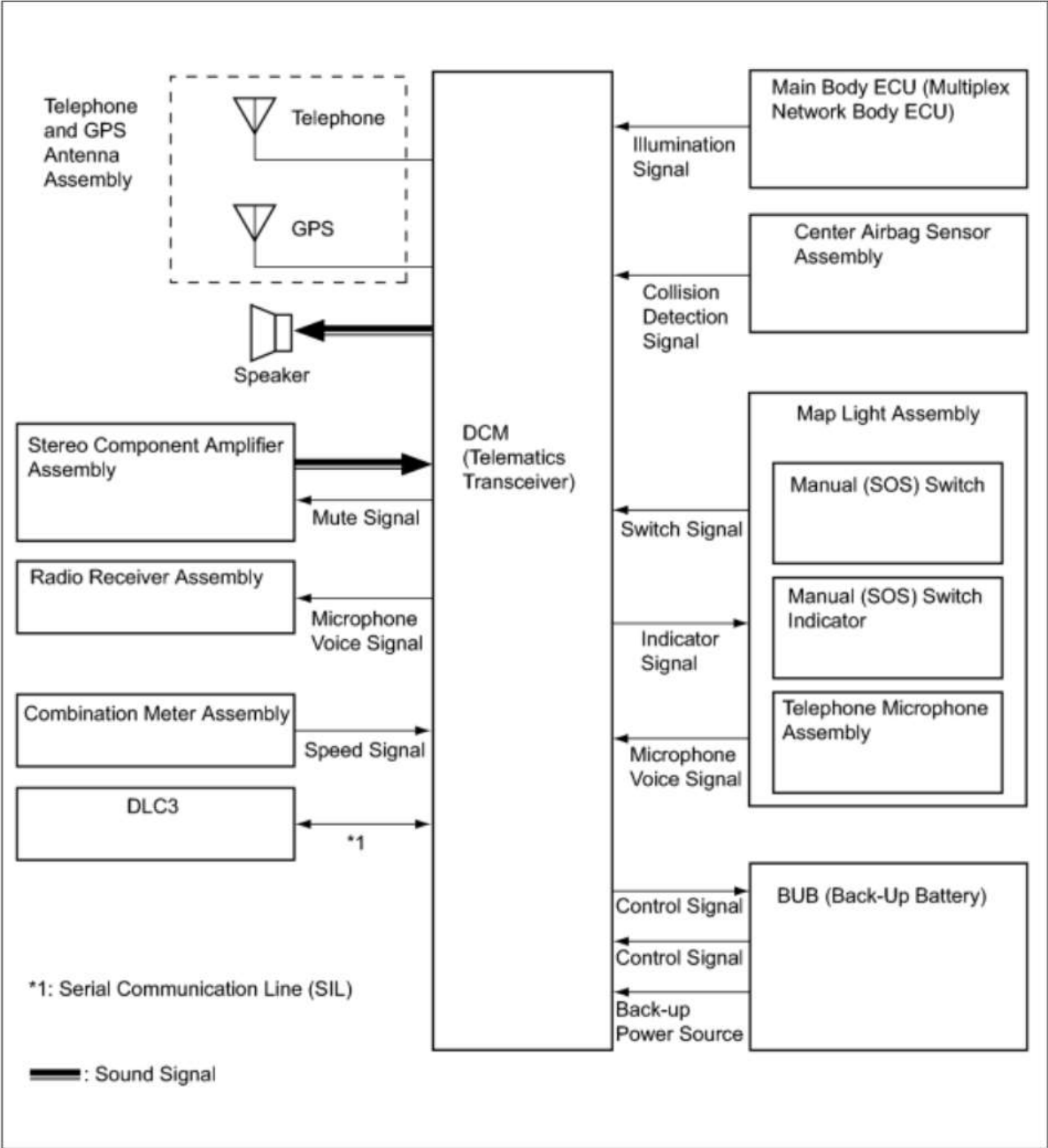
ILLUSTRATION



CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: PARTS LOCATION (2010 Prius)



SYSTEM DIAGRAM

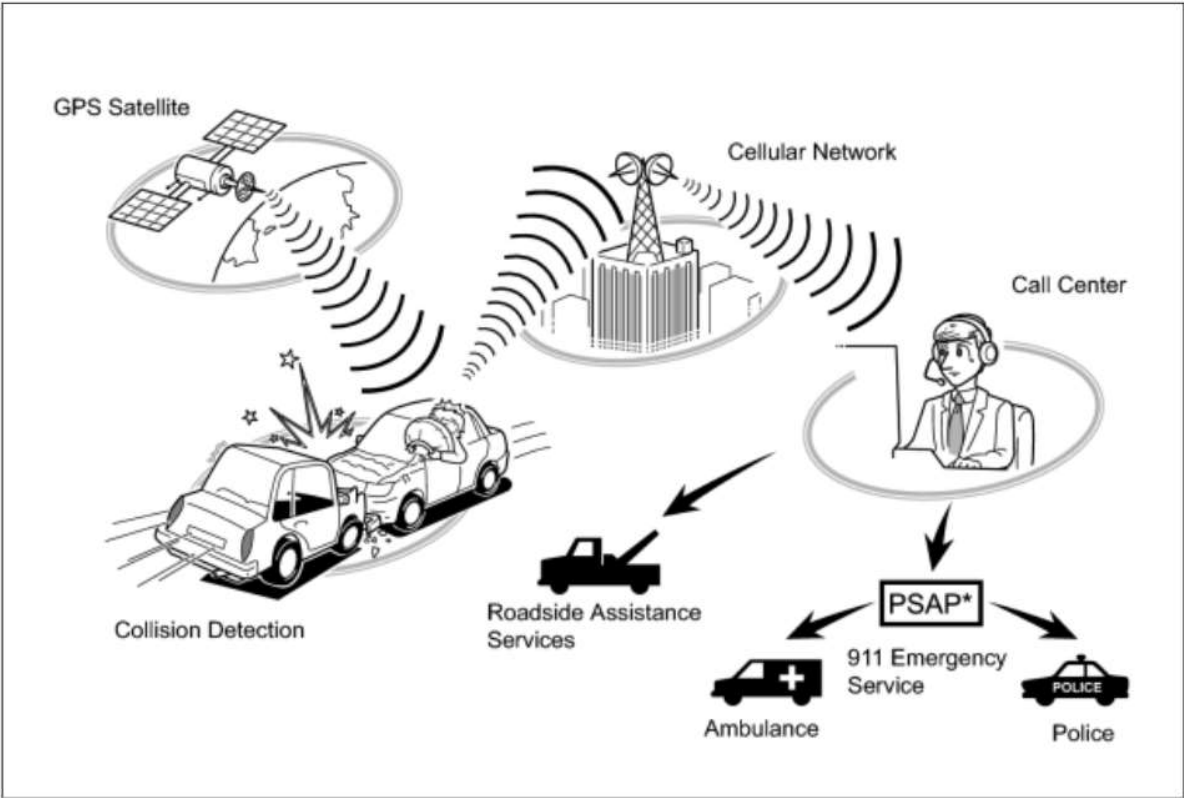


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SYSTEM DESCRIPTION

1. DESCRIPTION

(a) Safety Connect performs ACN (Automatic Collision Notification), manual emergency calling, stolen vehicle tracking and roadside assistance service, by audio and data communications between the vehicle and call center through a cellular phone network. As shown in the illustration, when a collision is detected, the vehicle sends its location calculated based on GPS signals and the identification of DCM (Telematics Transceiver) to a call center. After the necessary information has been gathered, the call center will relay this information to emergency services.



*: Public Safety Answering Point

2. SYSTEM FUNCTION

FUNCTION	OUTLINE
ACN (Automatic Collision Notification)	When a collision is detected, the vehicle connects to the call center automatically and reports the vehicle location and vehicle information by data communication. The operator will connect to the vehicle and communicate with the occupant. Even if the occupant does not answer, the operator can notify emergency services. Collision Detection Call Center 911 Emergency Services Calling an Ambulance
	After pressing the manual (SOS) switch, the occupant can talk to an operator from the call center to seek assistance

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: SYSTEM DESCRIPTION (2010 Prius)

Manual Emergency Call	Safety Connect SOS Manual (SOS) Switch is Pressed →  Call Center ↔ PSAP * 911 Emergency Services
Stolen Vehicle Locator	After the vehicle has been reported stolen to the police, the customer can contact the call center to begin the stolen vehicle locator process. The operator locates this vehicle by GPS and provides information to the police.  My car was stolen! → Reporting  Call Center ↔ PSAP * 911 Emergency Services ↑  Police  Tracking of Stolen Vehicle → Call Center  Call Center ↔ PSAP * 911 Emergency Services
Roadside Assistance Service	Pressing the manual (SOS) switch will contact the call center, and a wide range of help, such as towing, flat tire, fuel delivery, etc, Can be provided. Safety Connect SOS Manual (SOS) Switch is Pressed →  Call Center ↔  Roadside Assistance Service

*: Public Safety Answering Point

HINT:
The shape of the manual (SOS) switch shown in the illustration is an example, and may differ from that of an actual vehicle.

3. VOICE GUIDANCE FUNCTION

HINT:
The system plays back the following voice prompts in the situations shown.

VOICE PROMPT	USAGE CONDITION
Safety Connect failure detected, please contact your dealer.	When system detects LED failure (Red only), and another DTC is set. Message is played once at each power switch on (ON) until the problem is fixed.

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: SYSTEM DESCRIPTION (2010 Prius)

	on (IG) until the problem is fixed.
Connecting to the Call Center.	DCM Activation start.
Safety Connect Activation failed.	DCM Activation fails for some reason.
Safety Connect Activation complete.	DCM Activation completed successfully.
Please make sure you are in an area with good cellular coverage and try again. If you continue to receive this message, contact your dealer.	Follows Activation Sequence.
Unable to Connect to the Call Center.	-
Impact detected.	When DCM (Telematics Transceiver) receives collision detection signal.
Connecting to the Emergency Call Center.	Call initiated to call center.
Unable to Connect to the Emergency Call Center.	DCM (Telematics Transceiver) cannot connect to Emergency Call Center for some reason
To cancel, please press the button again.	To end the call manually.
Emergency call cancelled.	Confirmation the call has been canceled.
The system will try again.	Could not connect to call center.
Welcome to Safety Connect.	This voice prompt is short version for activation.
To activate, please press the button again within 5 seconds.	This voice prompt is instruction for activation.
Safety Connect is not initialized.	Reserve for activation.
Safety Connect is not active.	When DCM (Telematics Transceiver) is in Deactive mode.
For information on setting up a new subscription or to initialize a subscription you've already set up, please press the button again within 5 seconds.	When DCM (Telematics Transceiver) is in Deactive mode.

4. BUB (BACK-UP BATTERY) OUTLINE

- (a) The BUB (Back-Up Battery) is a non-rechargeable battery.
- (b) When ACN (Automatic Collision Notification) occurs, the BUB (Back-Up Battery) provides power to the DCM (Telematics Transceiver).

NOTICE:

- After ACN is performed, the BUB (Back-Up Battery) must be replaced.
- The BUB (Back-Up Battery) must not be replaced while an ACN call is in progress.

HINT:

When a Manual Emergency Call is made, the BUB (Back-Up Battery) is not used as the power source.

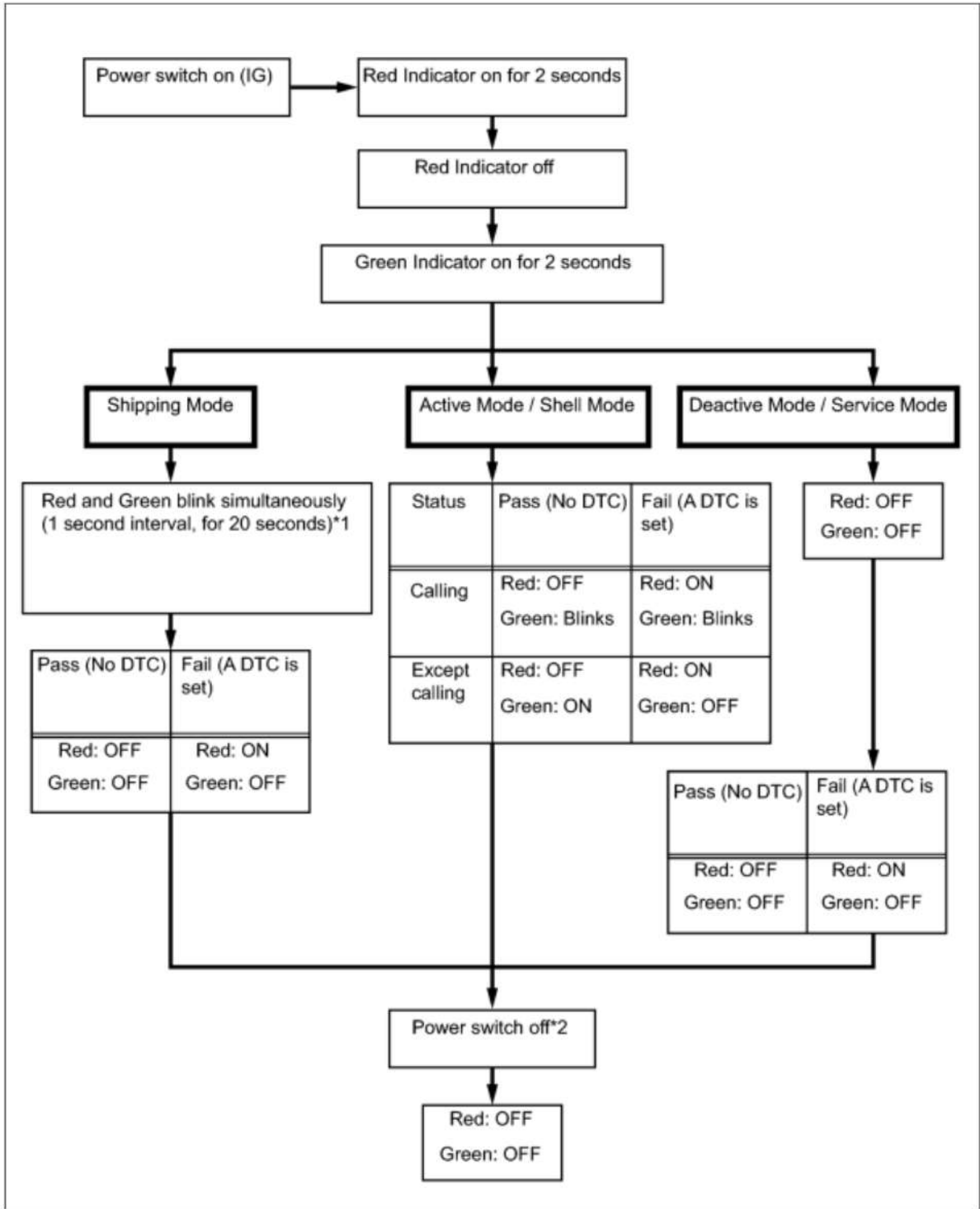
- (c) When it is time to replace the BUB (Back-Up Battery), the manual (SOS) switch red indicator will come on. The DCM (Telematics Transceiver) will also store a DTC.

5. INDICATOR CONTROL FUNCTION DURING DCM (TELEMATICS TRANSCEIVER) SELF CHECK MODE**HINT:**

Every time after the power switch is turned on (IG), the DCM (Telematics Transceiver) will enter into a self check mode. The manual (SOS) switch red indicator will illuminate for 2 seconds and then turn off and then the manual

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: SYSTEM DESCRIPTION (2010 Prius)

(SOS) switch green indicator will illuminate and will stay on throughout normal operation. The following chart indicates the possible scenarios.



- *1: System will automatically switch to shell mode if auto activation is successful.
- *2: If a call is in progress during power switch off, the call will continue and LED function will not change.

6. SWITCHING THE CONTRACT MODES

CONTRACT MODES	DESCRIPTION
Shipping Mode	This mode is the mode the DCM (Telematics Transceiver) is in from the factory and during shipping. In this mode, when power switch is turned on (IG), the system will automatically attempt to activate

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: SYSTEM DESCRIPTION (2010 Prius)

Shipping Mode	In this mode, when power switch is turned on (IG), the system will automatically attempt to activate into shell mode.
Shell Mode	This mode begins after vehicle has been automatically activated (into shell mode) after arriving at port or leaving the manufacturing plant line. ACN and stolen vehicle locator are available.
Active Mode	This mode begins when the owner's information is provided to telematics and customer signs contract for Safety Connect system. All functions of Safety Connect system are available.
Service Mode	This mode applies to a service part DCM (Telematics Transceiver) that has not been activated after replacing DCM (Telematics Transceiver) in vehicle. DCM (Telematics Transceiver) has no associated phone numbers.
Deactive Mode	The mode occurs when Safety Connect subscription has been cancelled.

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- Use the following to troubleshoot the Safety Connect system.
- *: Use the Techstream.

1. VEHICLE BROUGHT TO WORKSHOP

NEXT

2. CUSTOMER PROBLEM ANALYSIS CHECK AND SYMPTOM CHECK

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

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

NEXT

3. INSPECT BATTERY VOLTAGE

(a) Measure the auxiliary battery voltage with the power switch off.

Standard Voltage:
11 to 14 V

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

NEXT

▼

4.

VERIFY CUSTOMER SUBSCRIPTION IS ACTIVE

(a) Enter the VIN into Vehicle Inquiry on Techstream and verify subscription type and expiration date.

NEXT

▼

5.

PERFORM HEALTH CHECK

(a) Perform "Health Check" and check for current DTCs [INFO](#) .

Result:

RESULT	PROCEED TO
No DTC is present.	A
DTC is present.	B
PRL update required.	C

B [INFO](#) GO TO DIAGNOSTIC TROUBLE CODE CHART

C [INFO](#) PERFORM PRL UPDATE

A

▼

6.

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
--	---

HINT:

If the symptom does not reoccur and no DTC is output, attempt to reproduce the symptoms INFO .

B ▶ Go to step 8

A
▼

7.	OVERALL ANALYSIS AND TROUBLESHOOTING*
----	---------------------------------------

- (a) Refer to Terminals of ECU INFO .
- (b) Refer to Data List/Active Test INFO .

NEXT
▼

8.	REPAIR OR REPLACE
----	-------------------

- (a) Check if the DCM (Telematics Transceiver) has been replaced.
Result:

RESULT	PROCEED TO
The DCM (Telematics Transceiver) has been replaced.	A
The DCM (Telematics Transceiver) has not been replaced.	B

B ▶ Go to step 10

A
▼

9.	PERFORM DCM ACTIVATION
----	------------------------

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: HOW TO PROCEED WITH TROUBLESHOOTING (2010 Prius)

(a) Perform " DCM ACTIVATION"  .

NEXT


10.	CONFIRMATION TEST
-----	-------------------

NEXT  **END**

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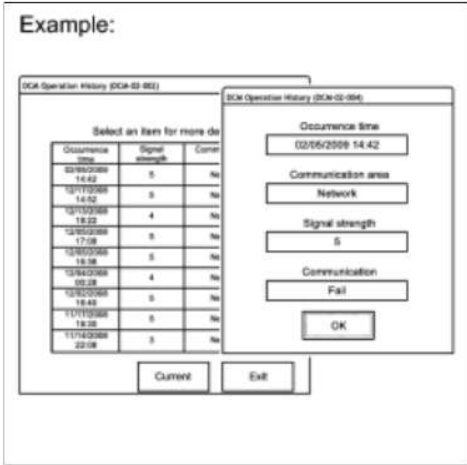
DCM OPERATION HISTORY

1. DCM OPERATION HISTORY

This function shows the telematics network status when the DCM (Telematics Transceiver) was operated. Use this when no DTC is present but this telematics system was unable to connect to the call center. This symptom may occur if cell phone signal strength was very weak.

- (a) Connect the Techstream to the DLC3.
- (b) Turn the power switch on (IG).
- (c) Turn the Techstream on.
- (d) Choose "Telematics" from the System Selection Menu, and then click "Utility".
- (e) Click "DCM Operation History" on the Utility Selection Menu.
- (f) Follow the instructions on the Techstream.

- "Occurrence time" indicates date of the DCM (Telematics Transceiver) operation.
- "Communication area" indicates which communication network was used: Network (Verizon) or Roaming.
- "Signal strength" indicates the strength of the cellular signal received by the vehicle: 0 (no signal) to 5 (strong).
- "Communication" indicates connecting to the call center: Success or Fail.



RESULT	DESCRIPTION
Success(Navigation)	A call successfully made using a navigation telematics function (Destination Assist)
Success(SOS)	A call successfully made using the manual (SOS) switch.
Fail*	A call that was unsuccessful.

NOTICE:
*: A failure can also be caused by manually ending an SOS call, and does not necessarily indicate a device malfunction.

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: DCM ACTIVATION (2010 Prius)

DCM ACTIVATION

1. DCM ACTIVATION

This function should be used to activate the DCM (Telematics Transceiver) after a new DCM (Telematics Transceiver) has been installed. During the DCM Activation process, Techstream automatically provides the telematics service provider with the new DCM (Telematics Transceiver) information and deletes the old DCM (Telematics Transceiver) information associated with the vehicle. The DCM (Telematics Transceiver) that was replaced should be returned to the parts department.

- (a) Connect the Techstream to the DLC3.
- (b) Turn the power switch on (IG).
- (c) Turn the Techstream on.
- (d) Choose "Telematics" from the System Selection Menu, and then click "Utility".
- (e) Click "DCM Service" on the Utility Selection Menu.

Example:



- (f) Choose "Activate DCM" and then click "Next" on the DCM Service Utility.

- (g) Follow the instructions on the Techstream.

HINT:

- If PRL is not latest version, utility will notify a PRL update must be performed before DCM Activation can be completed.
- If a fault occurs during DCM Activation, a specific fault message will be displayed with procedure guidelines.
- The manual (SOS) switch green indicator will turn on if activation is successful.

FAULT CODE	REASON
20	System timeout.
61	DCM (Telematics Transceiver) has been identified as a previously used part.
62	VIN is not recognized by telematics provider.
63	DCM (Telematics Transceiver) already associated with a vehicle. Use another authorized service part.
64	DCM (Telematics Transceiver) is not recognized.
66	DCM (Telematics Transceiver) is not a service part. Use only authorized service part.
67	Unable to activate at this time.

HINT:

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: DCM ACTIVATION (2010 Prius)

If one of these fault codes is present, follow the procedure indicated in the following list.

- Fault 20: Try DCM Activation again.
- Fault 61: Replace the DCM (Telematics Transceiver) with a new service part and perform DCM Activation.
- Fault 62*: Verify VIN is correct on ECM. Run Vehicle Inquiry and verify VIN.
- Fault 63: Replace the DCM (Telematics Transceiver) with a new service part and perform DCM Activation.
- Fault 64*: Verify that the DCM (Telematics Transceiver) is a new service part.
- Fault 66*: Replace the DCM (Telematics Transceiver) with a new service part and perform DCM Activation.
- Fault 67: Try DCM Activation again. If the fault occurs again, wait and try again later.

***: As the fault could also be caused by a problem in communicating with the call center, before replacing the DCM, check with the call center to determine if there is a database or communication problem.**

(Call Center number for TOYOTA vehicle: 800-331-4331)

- (h) Push the manual (SOS) switch to call an operator and confirm that the DCM (Telematics Transceiver) is activated.

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: HEALTH CHECK (2010 Prius)

HEALTH CHECK

1. HEALTH CHECK

Using the Techstream to perform a Health Check provides the technician with an overall view of vehicle status including telematics. Health Check will provide DCM (Telematics Transceiver) software version, PRL version, and applicable DTCs and fault codes related to telematics.

- Connect the Techstream to the DLC3.
- Turn the power switch on (IG).
- Turn the Techstream on.
- Click "Health Check".

FAULT CODE	REASON
62	VIN is not recognized by telematics provider.
64	DCM (Telematics Transceiver) is not recognized.
65	VIN mismatch with DCM (Telematics Transceiver).

HINT:

- If Health Check results in a telematics issue, a specific Fault Code will be displayed.
- If a fault code occurs, follow the procedure.
- Fault 62*: Press the manual (SOS) switch and inform operator of error message.
- Fault 64: Press the manual (SOS) switch and inform operator of error message.
- Fault 65*: Contact the call center and request that they correct the DCM/VIN registration information in their database. (Call Center number for TOYOTA vehicle: 800-331-4331)

HINT:

*: Verify VIN is correct in ECM. Run Vehicle Inquiry on Techstream and verify VIN is correct.

- Data is displayed under "Telematics".

Example:

Health Check Results							
-Health Check does not display live data							
-Changes in vehicle condition will not update, automatically							
-To update Health Check, click the Refresh button							
System	Current	Pending	History	Permanent	Monitor Status	Calibration	Update?
Air Conditioner	0	0	0	0	0	0	0
Main Body	0	0	0	0	0	0	0
Transmission	0	0	0	0	0	0000000000 21 06 18	0
Engine and ECT	0	0	0	0	0	00100 340C2000 AUC21100	No
Crash Control	0	0	0	0	0	0	No
VSC	0	0	0	0	0	0	0
Abs/ESC/THAC	0	0	0	0	0	0	0
ASC	0	0	0	0	0	0	0
The Pressure Monitor	0	0	0	0	0	0	0
Chassis Detection	0	0	0	0	0	0	0
Coordination Meter	0	0	0	0	0	0	0
CL-Door Motor	0	0	0	0	0	0	0
Brake Assist	0	0	0	0	0	0	0
P-Door Motor	0	0	0	0	0	0	0
RL-Door Motor	0	0	0	0	0	0	0
SL-Door Motor	0	0	0	0	0	0	0
Sliding Door	0	0	0	0	0	0	0
Master Switch	0	0	0	0	0	0	0
Gateway	0	0	0	0	0	0	0
Back Door	0	0	0	0	0	0	0
Driver Seat	0	0	0	0	0	0	0

ACN CALL END

1. ACN CALL END

This function terminates the ACN (Automatic Collision Notification) to the telematics provider. After a collision in which the DCM receives "Collision Detection Signal", the vehicle will send the emergency call notification to the telematics provider until the ACN call end utility has been run, or the BUB (Back-Up Battery) (if equipped) depleted. Use the ACN Call End utility to stop the ACN call.

NOTICE:

The BUB (Back-Up Battery) must not be replaced while an ACN call is in progress.

HINT:

After ACN call end utility has been completed, BUB (Back-Up Battery) must be replaced.

- (a) Connect the Techstream to the DLC3.
- (b) Turn the power switch on (IG).
- (c) Turn the Techstream on.
- (d) Choose "Telematics" from the System Selection Menu, and then click "Utility".
- (e) Click "DCM Service" on the Utility Selection Menu.

Example:



- (f) Choose "ACN call end" and then click "Next" on the DCM Service Utility.

- (g) Follow the instructions by Techstream.

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: PROBLEM SYMPTOMS TABLE (2010 Prius)

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.

Voice Guidance

SYMPTOM	SUSPECTED AREA	SEE PAGE
"Safety Connect failure detected, please contact your dealer" message is played.	Refer to HEALTH CHECK.	INFO
	Diagnostic Trouble Code Chart. (Red indicator has failed and cannot indicate a failure.)	INFO
"Safety Connect Activation Failed" message is played.	Contact Telematics Service Provider to verify any network problems. (Call Center number for TOYOTA vehicles: 800-331-4331)	-
	Wait for a while, then move to a different location and retry (try to find a location with better signal reception).	-
	Refer to HEALTH CHECK.	INFO
	Diagnostic Trouble Code Chart.	INFO
"Unable to Connect the Emergency Call Center" or "Unable to Connect to the Call Center" message is played.	Contact Telematics Service Provider to verify any network problems. (Call Center number for TOYOTA vehicles: 800-331-4331)	-
	Wait for a while, then move to a different location and retry (try to find a location with better signal reception).	-
	Perform Vehicle Inquiry on Techstream and verify subscription status.	-
	Refer to UNABLE TO CONNECT TO CALL CENTER.	INFO
"Safety Connect is not active" message is played.	Perform Vehicle Inquiry on Techstream and verify subscription status.	-
	Explain to the customer that the system is in deactive mode, and confirm whether or not they would like to change to active mode.	-

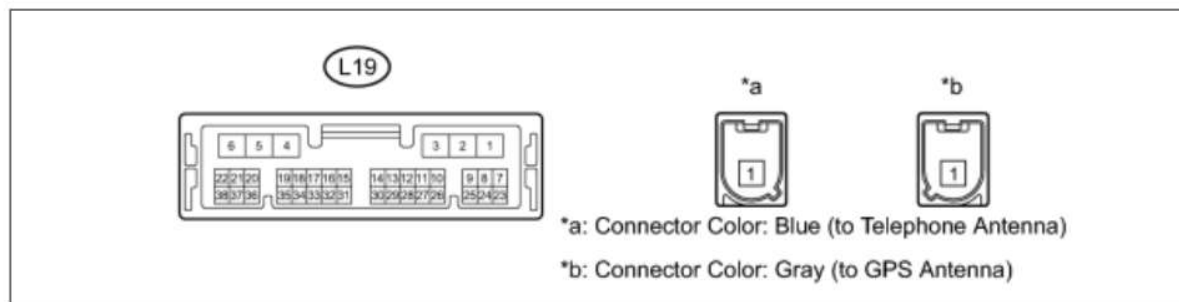
Indicator Condition

SYMPTOM	SUSPECTED AREA	SEE PAGE
Green indicator abnormal (Remains OFF)	Contact Telematics Service Provider to verify any network problems. (Call Center number for TOYOTA vehicles: 800-331-4331)	-
	Refer to DCM POWER SOURCE CIRCUIT	INFO
	Refer to GREEN INDICATOR REMAINS OFF	INFO
Red indicator abnormal (Remains ON)	Refer to RED INDICATOR REMAINS ON	INFO

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: PROBLEM SYMPTOMS TABLE (2010 Prius)

Red indicator abnormal (Remains ON)	Refer to RED INDICATOR REMAINS ON	
Green and red indicators abnormal (Remains OFF)	Contact Telematics Service Provider to verify any network problems. (Call Center number for TOYOTA vehicles: 800-331-4331)	-
	Refer to GREEN AND RED INDICATORS DO NOT COME ON WHEN IG-ON	
	Refer to DCM POWER SOURCE CIRCUIT	
	DCM (Telematics Transceiver)	
Green and red indicators blink simultaneously	Refer to GREEN AND RED INDICATORS BLINK SIMULTANEOUSLY	

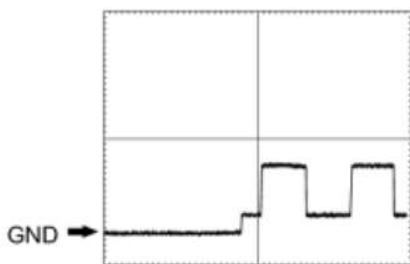
CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: TERMINALS OF ECU (2010 Prius)

TERMINALS OF ECU**1. CHECK DCM (TELEMATICS TRANSCIEVER)**

TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
L19-1 (+B) - L19-4 (E)	SB - BR	Vehicle battery power supply	Power switch off	11 to 14 V
L19-2 (SPI+) - L19-4 (E)	LG - BR	Sound signal	Audio system is playing	A waveform synchronized with sound is output
L19-3 (SPI-) - L19-4 (E)	L - BR	Sound signal	Audio system is playing	A waveform synchronized with sound is output
L19-4 (E) - Body ground	BR - Body ground	Ground	Always	Below 1 V
L19-5 (SPO+) - L19-4 (E)	LG - BR	Sound signal	Audio system is playing, or Emergency call mode	A waveform synchronized with sound is output
L19-6 (SPO-) - L19-4 (E)	L - BR	Sound signal	Audio system is playing, or Emergency call mode	A waveform synchronized with sound is output
L19-7 (IG2) - L19-4 (E)	L - BR	IG power supply	Power switch on (IG)	11 to 14 V
			Power switch off	Below 1 V
L19-8 (ACC) - L19-4 (E)	GR - BR	ACC power supply	Power switch on (ACC)	11 to 14 V
			Power switch off	Below 1 V
L19-9 (SLED) - L19-4 (E)	G - BR	Manual (SOS) switch illumination signal	Power switch on (ACC)	11 to 14 V
			Power switch off	Below 1 V
L19-10 (SPDP) - L19-4 (E)	V - BR	Vehicle speed signal	See "Vehicle Signal Check Mode" INFO	-
L19-11 (IND1) - L19-4 (E)	B - BR	Manual (SOS) switch red indicator illumination signal	For 2 seconds after turning the Power switch on (ACC)	1 to 8.5 V
			Power switch off	Below 1 V
L19-12 (IND2) - L19-4 (E)	P - BR	Manual (SOS) switch green indicator illumination signal	For 2 seconds after turning the Power switch on (ACC)	1 to 8.5 V
			Power switch off	Below 1 V
L19-13 (BBI-)	L	BUB (Back-Up Battery) power supply	-	-
L19-17 (MUTE) - L19-4 (E)	G - BR	Mute signal	Audio system is playing	3.5 V or higher
			Emergency call mode	Below 1 V

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: TERMINALS OF ECU (2010 Prius)

			Emergency call mode	Below 1 V
L19-18 (MCO+) - L19-4 (E)	B - BR	Sent microphone voice signal	See "Microphone & Voice Recognition Check" INFO	-
L19-19 (MCO-) - L19-4 (E)	W - BR	Sent microphone voice signal	See "Microphone & Voice Recognition Check" INFO	-
L19-20 (CTR1)	BE	BUB (Back-Up Battery) control line	-	-
L19-21 (CTR2)	BR	BUB (Back-Up Battery) control line	-	-
L19-23 (ILL+) - L19-4 (E)	G - BR	Illumination signal	Light control switch off	Below 1 V
			Light control switch tail or ON	11 to 14 V
L19-24 (GSW) - L19-4 (E)	R - BR	Collision detection signal	Power switch on (IG)	Pulse generation (Refer to waveform 1)
L19-25 (SIL)	P	Serial communication signal	-	-
L19-26 (SIG-) - L19-4 (E)	W - BR	Ground	Always	Below 1 V
L19-27 (SIG1) - L19-4 (E)	R - BR	Manual (SOS) switch condition signal	Manual (SOS) switch not pressed	1.5 to 2.0 V
			Manual (SOS) switch pressed	0.5 to 0.7 V
L19-30 (BBI+)	Y	BUB (Back-Up Battery) power supply	-	-
L19-32 (SGND) - L19-4 (E)	Shield - BR	Shield ground	Always	Below 1 V
L19-33 (MCVD) - L19-4 (E)	R - BR	Telephone microphone assembly power supply	Power switch off	Below 1 V
			Power switch on (IG)	4 to 6 V
L19-34 (MCI+) - L19-4 (E)	B - BR	Receive microphone voice signal	See "Microphone & Voice Recognition Check" INFO	-
L19-35 (MCI-) - L19-4 (E)	W - BR	Receive microphone voice signal	See "Microphone & Voice Recognition Check" INFO	-



(a) Oscilloscope waveform:

(1) Waveform 1

ITEM	CONDITION
Tester connection	L19-24 (GSW) - L19-4 (E)
Tool setting	5.0 V/DIV., 20 ms/DIV.
Vehicle condition	Power switch on (IG)

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: TERMINALS OF ECU (2010 Prius)

2. CHECK DISPLAY AND NAVIGATION MODULE DISPLAY

INFO

3. CHECK STEREO COMPONENT AMPLIFIER ASSEMBLY

INFO



DIAGNOSIS SYSTEM

1. DESCRIPTION

- (a) The DCM (Telematics Transceiver) controls the vehicle Safety Connect system functions. Safety Connect system data and Diagnostic Trouble Codes (DTCs) can be read through the vehicle Data Link Connector 3 (DLC3). In some cases, a malfunction may be occurring in the Safety Connect system. When the system seems to be malfunctioning, use the Techstream to check for malfunctions and perform repairs.

2. CHECK DLC3

- (a) Check the DLC3 .

3. INSPECT BATTERY VOLTAGE

- (a) Measure the auxiliary battery voltage with the power switch off.

Standard Voltage:

11 to 14 V

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

4. CHECK INDICATOR

- (a) When a malfunction is detected in the Safety Connect system, the manual (SOS) switch red indicator on the manual (SOS) switch illuminates to inform the driver of the malfunction .

DTC CHECK / CLEAR

1. CHECK DTC

- (a) Connect the Techstream to the DLC3.
- (b) Turn the power switch on (IG).
- (c) Turn the Techstream on.
- (d) Enter the following menus: Body Electrical / Telematics / Trouble Codes.
- (e) Check the details of the DTC(s)  .

2. CLEAR DTC

- (a) Connect the Techstream to the DLC3.
- (b) Turn the power switch on (IG).
- (c) Turn the Techstream on.
- (d) Enter the following menus: Body Electrical / Telematics / Trouble Codes.
- (e) Clear the DTCs.

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: PRL UPDATE (2010 Prius)

PRL UPDATE

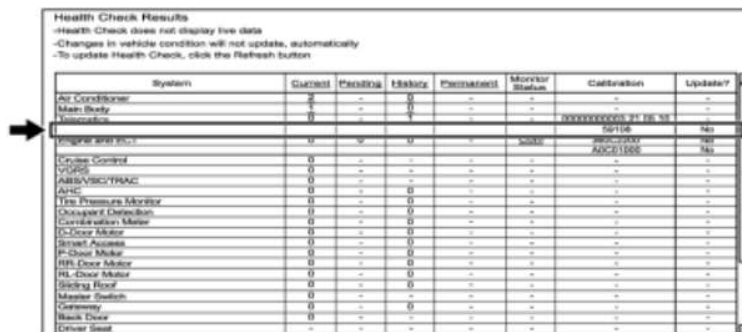
1. PRL UPDATE

This function updates the PRL (Preferred Roaming List) of the DCM (Telematics Transceiver). The PRL is a large set of phone numbers the DCM (Telematics Transceiver) can utilize to make an emergency call when outside (roaming) the telematics service area. The PRL update utility could be used in the following scenarios:

- PRL update is required after "Health Check"
- DCM Activation Utility requires a PRL update before activation

- Connect the Techstream to the DLC3.
- Turn the power switch on (IG).
- Turn the Techstream on.
- Click "Health Check".
- Verify if updates are available for the currently installed PRL version (Yes or No).
- If "Yes" is listed, click it. A TIS webpage will open with Calibration Search Results.
- Click on the latest service bulletin (TSB) link.
- Save the file (.CUW) from the TSB.
- Exit from the Techstream application.
- Run the file to launch Calibration Update Wizard (CUW).
- Follow the CUW steps.

Example:



System	Current	Previous	Update	Monitor	Calibration	Update?
Air Conditioner	0	0	0	0	0	0
Main Body	0	0	0	0	0	0
Transmission	0	0	0	0	0	0
Engine Oil Life	0	0	0	0	0	Yes
Crash Control	0	0	0	0	0	Yes
VSC	0	0	0	0	0	Yes
ABS/ESC/ESP	0	0	0	0	0	Yes
AHC	0	0	0	0	0	Yes
Tire Pressure Monitor	0	0	0	0	0	Yes
Chassis & Drivetrain	0	0	0	0	0	Yes
Combustion Motor	0	0	0	0	0	Yes
Clutch Motor	0	0	0	0	0	Yes
Brake System	0	0	0	0	0	Yes
P-Door Motor	0	0	0	0	0	Yes
RH-Door Motor	0	0	0	0	0	Yes
RL-Door Motor	0	0	0	0	0	Yes
Sliding Roof	0	0	0	0	0	Yes
Master Switch	0	0	0	0	0	Yes
Gateway	0	0	0	0	0	Yes
Back Door	0	0	0	0	0	Yes
Driver Seat	0	0	0	0	0	Yes

DATA LIST / ACTIVE TEST

1. DATA LIST

HINT:

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

NOTICE:

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

- (a) Connect the Techstream to the DLC3.
- (b) Turn the power switch on (IG).
- (c) Turn the Techstream on.
- (d) Enter the following menus: Body Electrical / Telematics / Data List.
- (e) According to the display on the Techstream, read the "Data List".

Telematics (DCM (Telematics Transceiver))

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Emergency Switch	Manual (SOS) switch / OFF or ON	OFF: Manual (SOS) switch not pressed	-
		ON: Manual (SOS) switch pressed	-
Current Com Back-Up Battery	BUB (Back-Up Battery) installation history / with or without	with: BUB (Back-Up Battery) was connected at some point (does not guarantee that BUB (Back-Up Battery) is currently connected)	-
		without: This DCM (telematics transceiver) has no record of a BUB (Back-Up Battery) ever being connected	-

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: DIAGNOSTIC TROUBLE CODE CHART (2010 Prius)

DIAGNOSTIC TROUBLE CODE CHART**HINT:**

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

DCM (Telematics Transceiver)

DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
B1570	Manual (SOS) Switch Red Indicator Malfunction	1. Map light assembly 2. Wire harness or connector 3. DCM (Telematics Transceiver)	INFO
B1571	Manual (SOS) Switch Green Indicator Malfunction	1. Map light assembly 2. Wire harness or connector 3. DCM (Telematics Transceiver)	INFO
B1572	Telephone Microphone Error	1. Wire harness or connector 2. Telephone microphone assembly 3. Map light assembly 4. DCM (Telematics Transceiver)	INFO
B1573	Short in Telephone Antenna Circuit	1. DCM (Telematics Transceiver) 2. Telephone and GPS antenna assembly 3. Wire harness or connector (Telephone and GPS antenna cord)	INFO
B15CB	Telematics Transceiver Antenna Disconnected	1. DCM (Telematics Transceiver) 2. Telephone and GPS antenna assembly 3. Wire harness or connector (Telephone and GPS antenna cord)	INFO
B1583	GPS Signal Unreceived	1. Telephone and GPS antenna assembly 2. DCM (Telematics Transceiver)	INFO
B15A8	Telematics Transceiver Malfunction	DCM (Telematics Transceiver)	INFO
B15C0	Short in GPS Antenna	1. DCM (Telematics Transceiver) 2. Wire harness or connector (Telephone and GPS antenna cord) 3. Telephone and GPS antenna assembly	INFO
B15C1	Open in GPS Antenna	1. DCM (Telematics Transceiver) 2. Wire harness or connector (Telephone and GPS antenna cord) 3. Telephone and GPS antenna assembly	INFO
B15C4	Airbag Signal Malfunction/Not Input	1. Airbag system 2. Wire harness or connector 3. Center airbag sensor assembly 4. DCM (Telematics Transceiver)	INFO
B15C5	Manual Button Malfunction	1. DCM (Telematics Transceiver) 2. Map light assembly 3. Wire harness or connector	INFO
B15CC	Backup Battery Failure	1. Wire harness or connector 2. BUB (Back-Up Battery)	INFO

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: DIAGNOSTIC TROUBLE CODE CHART (2010 Prius)

		3. DCM (Telematics Transceiver)	
B15EC	Backup Battery Degradation	BUB (Back-Up Battery)	INFO

DTC	B1570	Manual (SOS) Switch Red Indicator Malfunction
-----	-------	---

DESCRIPTION

This DTC is set when the DCM (Telematics Transceiver) detects an open or short in the manual (SOS) switch red indicator circuit of the manual (SOS) switch.

The manual (SOS) switch red indicator illuminates for 2 seconds and goes off when the power switch is turned on (IG). If a malfunction in the Safety Connect system is detected, the manual (SOS) switch red indicator will illuminate.

However, the manual (SOS) switch red indicator may not illuminate when this DTC is set.

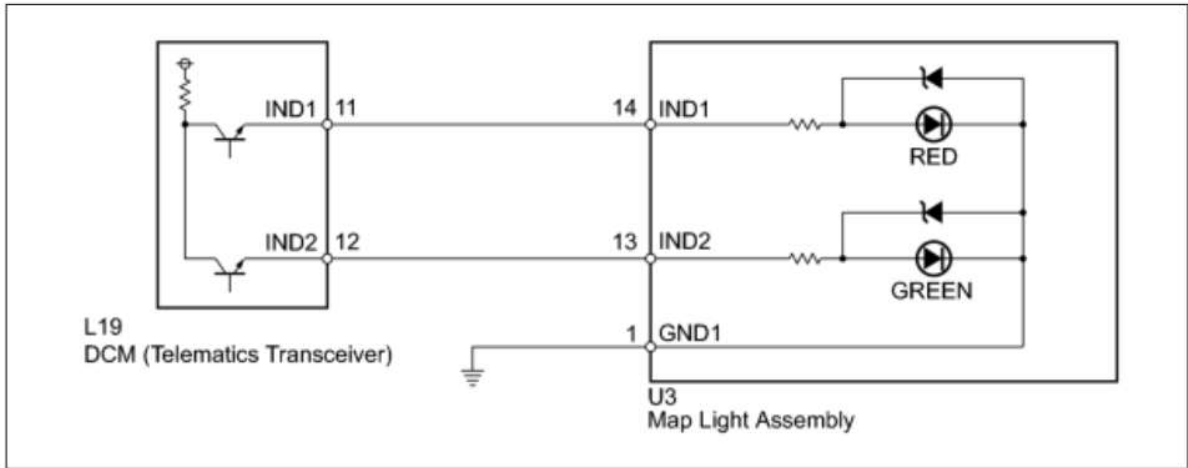
HINT:

The manual (SOS) switch red indicator will not operate to indicate another DTC is set, therefore a voice guidance will be heard.

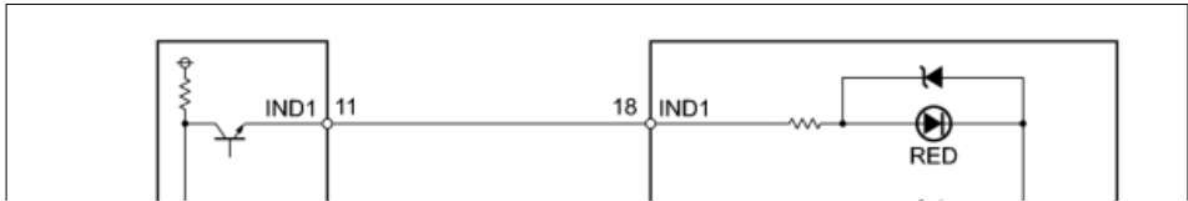
DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B1570	Current for manual (SOS) switch red indicator reaches malfunction criteria for 10 seconds when power switch is on (IG).	• Map light assembly • Wire harness or connector • DCM (Telematics Transceiver)

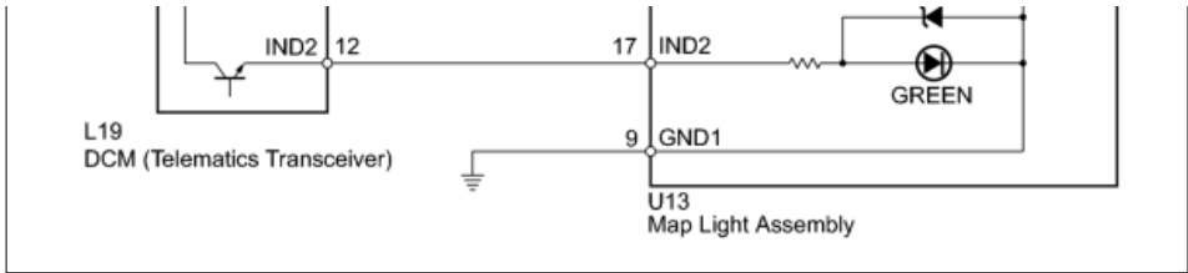
WIRING DIAGRAM

1. w/o Sliding Roof



2. w/ Sliding Roof





INSPECTION PROCEDURE

PROCEDURE

1. CHECK DTC

- (a) Turn the power switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the power switch on (IG) and wait for 10 seconds.
- (d) Turn the Techstream on.
- (e) Perform "HEALTH CHECK" and check for current DTCs [INFO](#) .

Result:

RESULT	PROCEED TO
DTC B1570 and B1571 are output	A
DTC B1570 is output (DTC B1571 is not output)	B

B ▶ INSPECT MAP LIGHT ASSEMBLY (MANUAL (SOS) SWITCH RED INDICATOR CONDITION)

A ▼

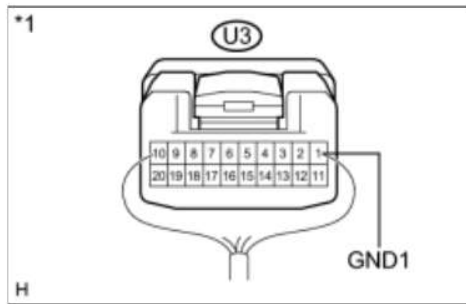
2. CHECK HARNESS AND CONNECTOR (MAP LIGHT ASSEMBLY - BODY GROUND)

- (a) Remove the map light assembly but do not disconnect the connectors [INFO](#) .

(b) w/o Sliding Roof:

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

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B1570: Manual (SOS) Switch Red Indicator Malfunction (2010 Prius)



Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
U3-1 (GND1) - Body ground	Always	Below 1 Ω

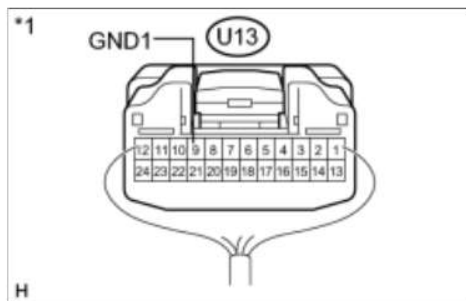
Text in Illustration

*1	Component with harness connected (Map Light Assembly)
----	--

(c) w/ Sliding Roof:

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

Standard Resistance:



TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
U13-9 (GND1) - Body ground	Always	Below 1 Ω

Text in Illustration

*1	Component with harness connected (Map Light Assembly)
----	--

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

3. INSPECT MAP LIGHT ASSEMBLY (RED INDICATOR)

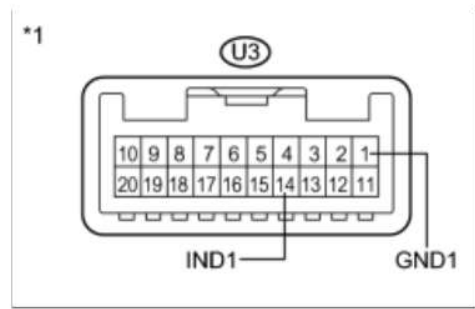
(a) Disconnect the U3*1 or U13*2 map light assembly connector.

- *1: w/o Sliding Roof
- *2: w/ Sliding Roof

(b) Connect 2 dry-cell batteries (1.5 V each) in series.

(c) w/o Sliding Roof:

(1) Connect the positive (+) lead to terminal U3-14 (IND1) and the negative (-) lead to terminal U3-1 (GND1) of the map light assembly connectors.

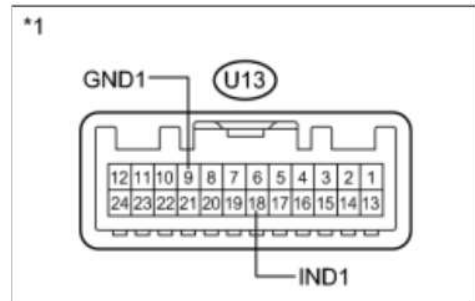


- assembly connectors.
- (2) Check if the illumination for the manual (SOS) switch red indicator comes on.
- OK:
Red indicator comes on.

Text in Illustration

*1	Component without harness connected (Map Light Assembly)
----	---

(d) w/ Sliding Roof:



- (1) Connect the positive (+) lead to terminal U13-18 (IND1) and the negative (-) lead to terminal U13-9 (GND1) of the map light assembly connectors.
- (2) Check if the illumination for the manual (SOS) switch red indicator comes on.
- OK:
Red indicator comes on.

Text in Illustration

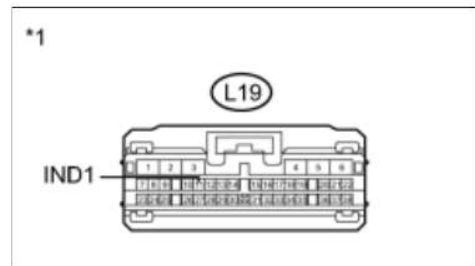
*1	Component without harness connected (Map Light Assembly)
----	---

NG▶ REPLACE MAP LIGHT ASSEMBLY

OK
▼

4.	CHECK HARNESS AND CONNECTOR (DCM (TELEMATICS TRANSCEIVER) - MAP LIGHT ASSEMBLY)
----	---

(a) Disconnect the L19 DCM (Telematics Transceiver) connector.

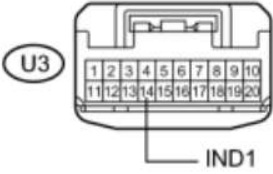


(b) w/o Sliding Roof:

- (1) Measure the resistance according to the value(s) in the table below .
- Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-11 (IND1) - L19-14 (IND1)	Always	Below 1 Ω

*2

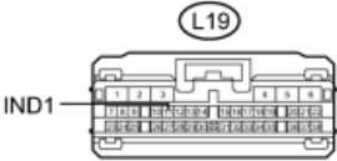


L19-11 (IND1) - U3-14 (IND1)	Always	Below 1 Ω
------------------------------	--------	-----------

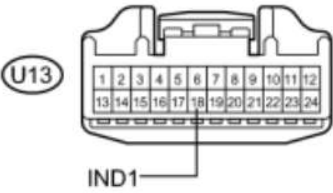
Text in Illustration

*1	Front view of wire harness connector (to DCM (Telematics Transceiver))
*2	Front view of wire harness connector (to Map Light Assembly)

*1



*2



(c) w/ Sliding Roof:

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-11 (IND1) - U13-18 (IND1)	Always	Below 1 Ω

Text in Illustration

*1	Front view of wire harness connector (to DCM (Telematics Transceiver))
*2	Front view of wire harness connector (to Map Light Assembly)

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

5. REPLACE DCM (TELEMATICS TRANSCEIVER)

(a) Replace the DCM (Telematics Transceiver) INFO .

- NOTICE:
- The power switch must be off.
 - Do not swap the DCM (Telematics Transceiver) with one from another vehicle.

NEXT

PERFORM DCM ACTIVATION

6. INSPECT MAP LIGHT ASSEMBLY (MANUAL (SOS) SWITCH RED INDICATOR CONDITION)

(a) Confirm the red indicator status after the power switch on (IG) INFO.

Result:

RESULT	PROCEED TO
Red indicator remains off.	A
Red indicator remains on.	B

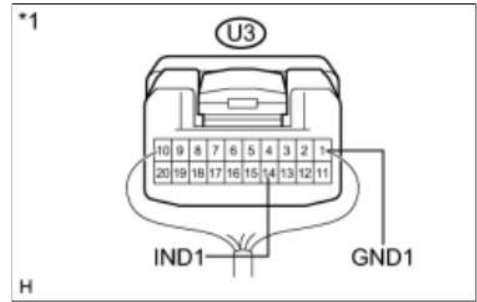
B ▶ REPLACE DCM (TELEMATICS TRANSCEIVER)

A
▼

7. INSPECT MAP LIGHT ASSEMBLY (RED INDICATOR INPUT VOLTAGE)

(a) Remove the map light assembly but do not disconnect the connectors INFO.

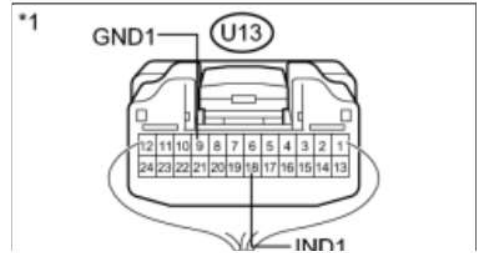
- (b) w/o Sliding Roof:
- (1) Connect the positive lead of a voltmeter to terminal U3-14 (IND1), and the negative lead to terminal U3-1 (GND1).
 - (2) Measure the voltage.
- Standard:
- 1.0 to 8.5 V for 2 seconds after the power switch is on (IG).
 - 0 V when the power switch is off.



Text in Illustration

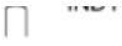
*1	Component with harness connected (Map Light Assembly)
----	--

- (c) w/ Sliding Roof:
- (1) Connect the positive lead of a voltmeter to terminal U13-18 (IND1), and the negative lead to terminal U13-9 (GND1).
 - (2) Measure the voltage.
- Standard:
- 1.0 to 8.5 V for 2 seconds after the power switch is on (IG).
 - 0 V when the power switch is off.



Text in Illustration

H



*1

Component with harness connected
(Map Light Assembly)

NG

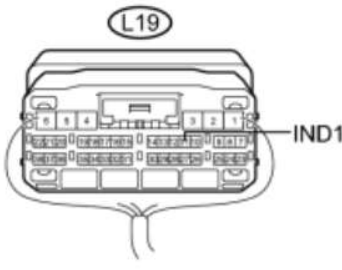
▶ INSPECT DCM (TELEMATICS TRANSCEIVER) (RED INDICATOR OUTPUT VOLTAGE)

OK

▶ REPLACE MAP LIGHT ASSEMBLY

8. INSPECT DCM (TELEMATICS TRANSCEIVER) (RED INDICATOR OUTPUT VOLTAGE)

*1



(a) Remove the DCM (Telematics Transceiver) but do not disconnect the connectors

INFO

.

- (b) Connect the positive lead of a voltmeter to terminal L19-11 (IND1), and the negative lead to body ground.
- (c) Measure the voltage.
- Standard:
- 1.0 to 8.5 V for 2 seconds after the power switch is on (IG).
- 0 V when the power switch is off.

Text in Illustration

*1

Component with harness connected
(DCM (Telematics Transceiver))

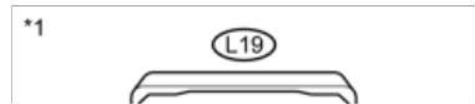
NG

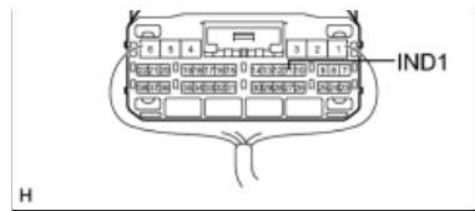
▶ CHECK HARNESS AND CONNECTOR (DCM (TELEMATICS TRANSCEIVER) - BODY GROUND)

OK

▶ REPAIR OR REPLACE HARNESS OR CONNECTOR

9. CHECK HARNESS AND CONNECTOR (DCM (TELEMATICS TRANSCEIVER) - BODY GROUND)





(a) Remove the DCM (Telematics Transceiver) but do not disconnect the connectors INFO .

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

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-11 (IND1) - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Component with harness connected (DCM (Telematics Transceiver))
----	--

NG ▶ REPAIR OR REPLACE HARNESS OR CONNECTOR

OK
▼

10. REPLACE DCM (TELEMATICS TRANSCEIVER)

(a) Replace the DCM (Telematics Transceiver) INFO .

- NOTICE:**
- The power switch must be off.
 - Do not swap the DCM (Telematics Transceiver) with one from another vehicle.

NEXT ▶ PERFORM DCM ACTIVATION

DTC	B1571	Manual (SOS) Switch Green Indicator Malfunction
-----	-------	---

DESCRIPTION

This DTC is set when the DCM (Telematics Transceiver) detects an open or short in the manual (SOS) switch green indicator circuit of the manual (SOS) switch. The manual (SOS) switch green indicator illuminates after the power switch is turned on (IG).

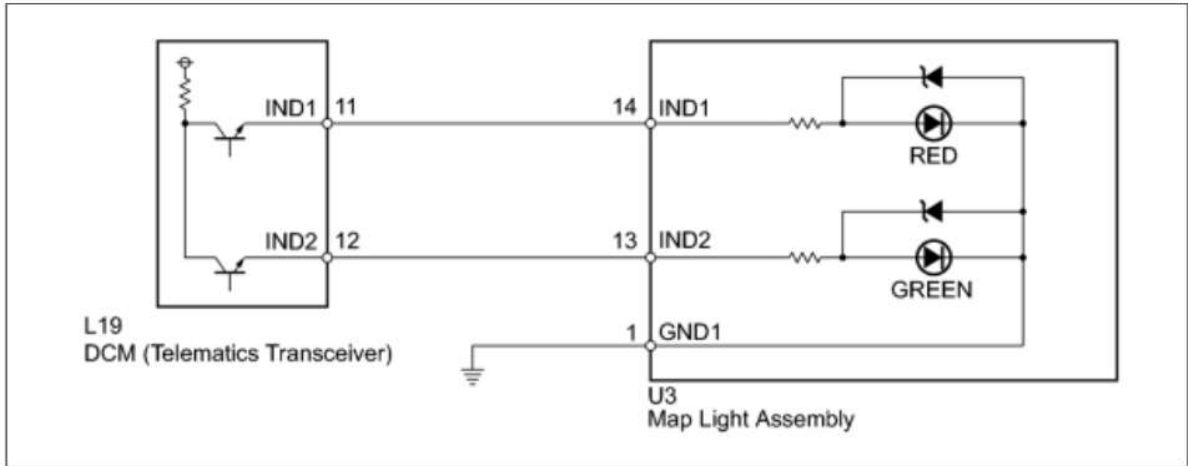
If the Safety Connect system is not active, the manual (SOS) switch green indicator will turn off.

If the Safety Connect system is active, the manual (SOS) switch green indicator will blink while communicating with call center.

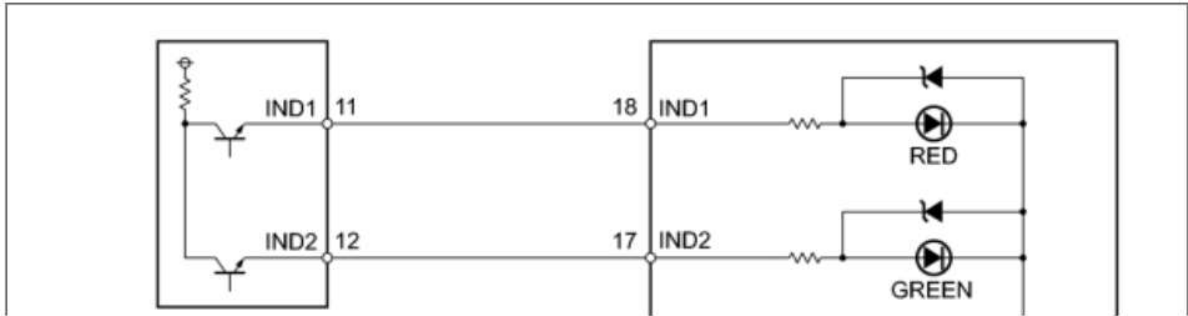
DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B1571	Current for manual (SOS) switch green indicator reaches malfunction criteria for 10 seconds when power switch is on (IG).	• Map light assembly • Wire harness or connector • DCM (Telematics Transceiver)

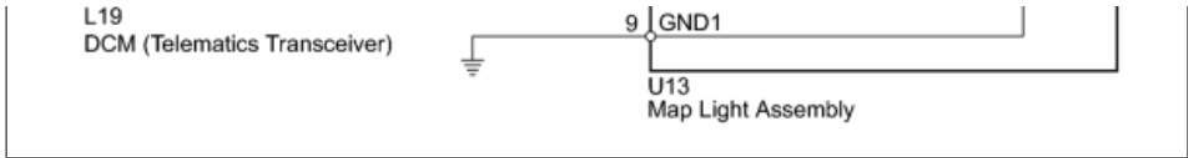
WIRING DIAGRAM

1. w/o Sliding Roof



2. w/ Sliding Roof





INSPECTION PROCEDURE

PROCEDURE

1. CHECK DTC

- (a) Turn the power switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the power switch on (IG) and wait for 10 seconds.
- (d) Turn the Techstream on.
- (e) Perform "HEALTH CHECK" and check for current DTCs INFO.
- Result:

RESULT	PROCEED TO
DTC B1570 and B1571 are output	A
DTC B1571 is output (DTC B1570 is not output)	B

B

INSPECT MAP LIGHT ASSEMBLY (MANUAL (SOS) SWITCH GREEN INDICATOR CONDITION)

A

2. CHECK HARNESS AND CONNECTOR (MAP LIGHT ASSEMBLY - BODY GROUND)

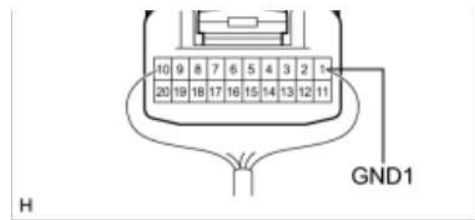
- (a) Remove the map light assembly but do not disconnect the connectors INFO.
- (b) w/o Sliding Roof:

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



TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
-------------------	-----------	---------------------

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B1571: Manual (SOS) Switch Green Indicator Malfunction (2010 Prius)



TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
U3-1 (GND1) - Body ground	Always	Below 1 Ω

Text in Illustration

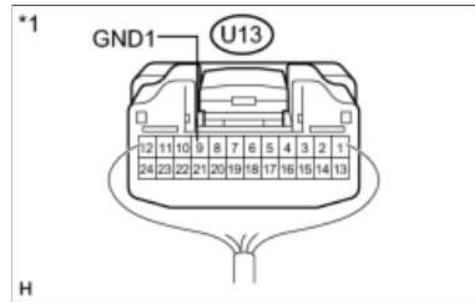
*1	Component with harness connected (Map Light Assembly)
----	--

(c) w/ Sliding Roof:

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
U13-9 (GND1) - Body ground	Always	Below 1 Ω



Text in Illustration

*1	Component with harness connected (Map Light Assembly)
----	--

NG REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

3. INSPECT MAP LIGHT ASSEMBLY (GREEN INDICATOR)

(a) Disconnect the U3*1 or U13*2 map light assembly connector.

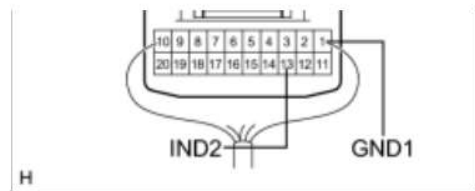
- *1: w/o Sliding Roof
- *2: w/ Sliding Roof

(b) Connect 2 dry-cell batteries (1.5 V each) in series.

(c) w/o Sliding Roof:

- (1) Connect the positive (+) lead to terminal U3-13 (IND2) and the negative (-) lead to terminal U3-1 (GND1) of the map light assembly connectors.
- (2) Check if the illumination for the manual (SOS) switch red indicator comes on.





OK:
Red indicator comes on.

Text in Illustration

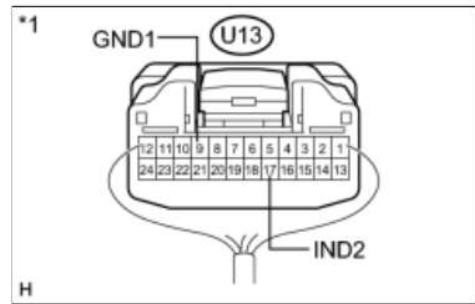
*1	Component without harness connected (Map Light Assembly)
----	---

(d) w/ Sliding Roof:

(1) Connect the positive (+) lead to terminal U13-17 (IND2) and the negative (-) lead to terminal U13-9 (GND1) of the map light assembly connectors.

(2) Check if the illumination for the manual (SOS) switch red indicator comes on.

OK:
Red indicator comes on.



Text in Illustration

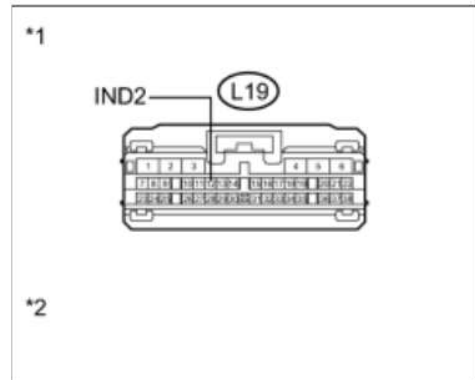
*1	Component without harness connected (Map Light Assembly)
----	---

NG **REPLACE MAP LIGHT ASSEMBLY**

OK

4.	CHECK HARNESS AND CONNECTOR (DCM (TELEMATICS TRANSCEIVER) - MAP LIGHT ASSEMBLY)
----	--

(a) Disconnect the L19 DCM (Telematics Transceiver) connector.



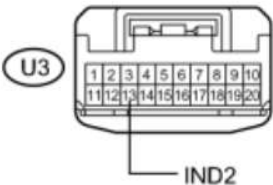
(b) w/o Sliding Roof:

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-12 (IND2) - U3-13 (IND2)	Always	Below 1 Ω

Text in Illustration



Text in Illustration

*1	Front view of wire harness connector (to DCM (Telematics Transceiver))
*2	Front view of wire harness connector (to Map Light Assembly)

(c) w/ Sliding Roof:

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-12 (IND2) - U13-17 (IND2)	Always	Below 1 Ω

Text in Illustration

*1	Front view of wire harness connector (to DCM (Telematics Transceiver))
*2	Front view of wire harness connector (to Map Light Assembly)

NG▶ REPAIR OR REPLACE HARNESS OR CONNECTOR

OK▶

5. REPLACE DCM (TELEMATICS TRANSCEIVER)

(a) Replace DCM (Telematics Transceiver) INFO .

- NOTICE:**
- The power switch must be off.
 - Do not swap the DCM (Telematics Transceiver) with one from another vehicle.

NEXT ▶ PERFORM DCM ACTIVATION

6. INSPECT MAP LIGHT ASSEMBLY (MANUAL (SOS) SWITCH GREEN INDICATOR CONDITION)

(a) Confirm the green indicator status after the power switch on (IG) INFO.

Result:

RESULT	PROCEED TO
Green indicator remains off.	A
Green indicator remains on.	B

B ▶ REPLACE DCM (TELEMATICS TRANSCEIVER)

A
▼

7. INSPECT MAP LIGHT ASSEMBLY (GREEN INDICATOR INPUT VOLTAGE)

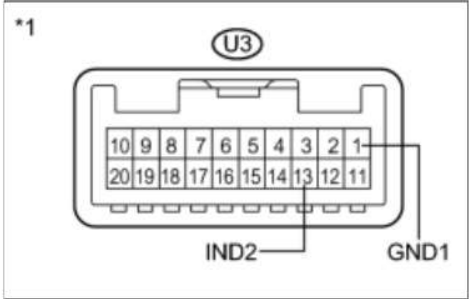
(a) Remove the map light assembly but do not disconnect the connectors INFO.

(b) w/o Sliding Roof:

(1) Connect the positive lead of a voltmeter to terminal U3-13 (IND2), and the negative lead to terminal U3-1 (GND1).

(2) Measure the voltage.

Standard:
1.0 to 8.5 V for 2 seconds after the power switch is on (IG).
0 V when the power switch is off.



Text in Illustration

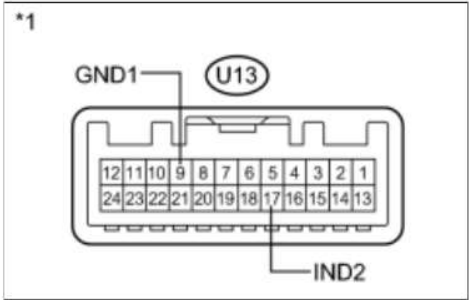
*1	Component with harness connected (Map Light Assembly)
----	--

(c) w/ Sliding Roof:

(1) Connect the positive lead of a voltmeter to terminal U13-17 (IND2), and the negative lead to terminal U13-9 (GND1).

(2) Measure the voltage.

Standard:
1.0 to 8.5 V for 2 seconds after the power switch is on (IG).
0 V when the power switch is off.



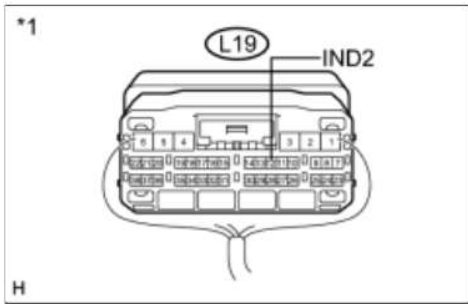
Text in Illustration

*1	Component with harness connected (Map Light Assembly)
----	--

- NG▶INSPECT DCM (TELEMATICS TRANSCEIVER) (GREEN INDICATOR OUTPUT VOLTAGE)
- OK▶REPLACE MAP LIGHT ASSEMBLY

8.

INSPECT DCM (TELEMATICS TRANSCEIVER) (GREEN INDICATOR OUTPUT VOLTAGE)



(a) Remove the DCM (Telematics Transceiver) but do not disconnect the connectors INFO.

- (b) Connect the positive lead of a voltmeter to terminal L19-12 (IND2), and the negative lead to body ground.
- (c) Measure the voltage.
- Standard:
- 1.0 to 8.5 V for 2 seconds after the power switch is on (IG) and red indicator has turned off.
 - 0 V when the power switch is off.

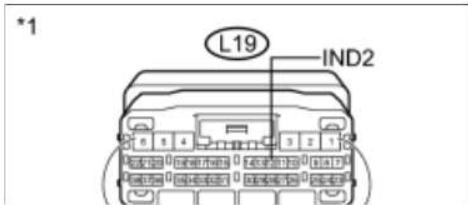
Text in Illustration

*1	Component with harness connected (DCM (Telematics Transceiver))
----	--

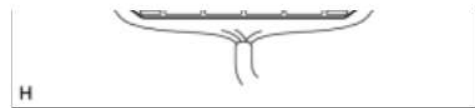
- NG▶CHECK HARNESS AND CONNECTOR (DCM (TELEMATICS TRANSCEIVER) - BODY GROUND)
- OK▶REPAIR OR REPLACE HARNESS OR CONNECTOR

9.

CHECK HARNESS AND CONNECTOR (DCM (TELEMATICS TRANSCEIVER) - BODY GROUND)



(a) Remove the DCM (Telematics Transceiver) but do not disconnect the connectors INFO.



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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-12 (IND2) - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Component with harness connected (DCM (Telematics Transceiver))
----	--

NG▶ REPAIR OR REPLACE HARNESS OR CONNECTOR

OK
▼

10.	REPLACE DCM (TELEMATICS TRANSCEIVER)
-----	--------------------------------------

(a) Replace the DCM (Telematics Transceiver) INFO .

- NOTICE:
- The power switch must be off.
 - Do not swap the DCM (Telematics Transceiver) with one from another vehicle.

NEXT▶ PERFORM DCM ACTIVATION

DTC

B1572

Telephone Microphone Error

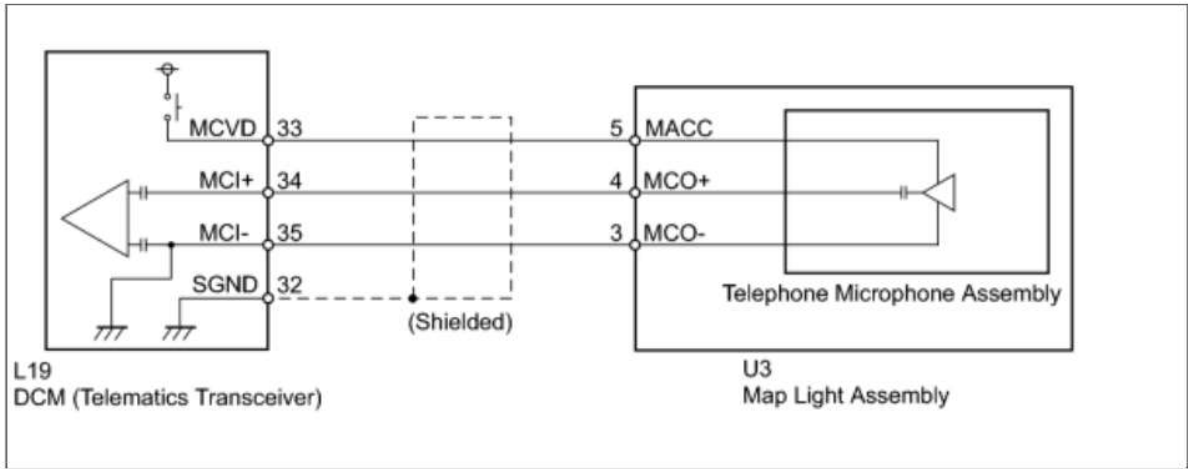
DESCRIPTION

This DTC is set when the DCM (Telematics Transceiver) detects a malfunction in the telephone microphone assembly circuit.

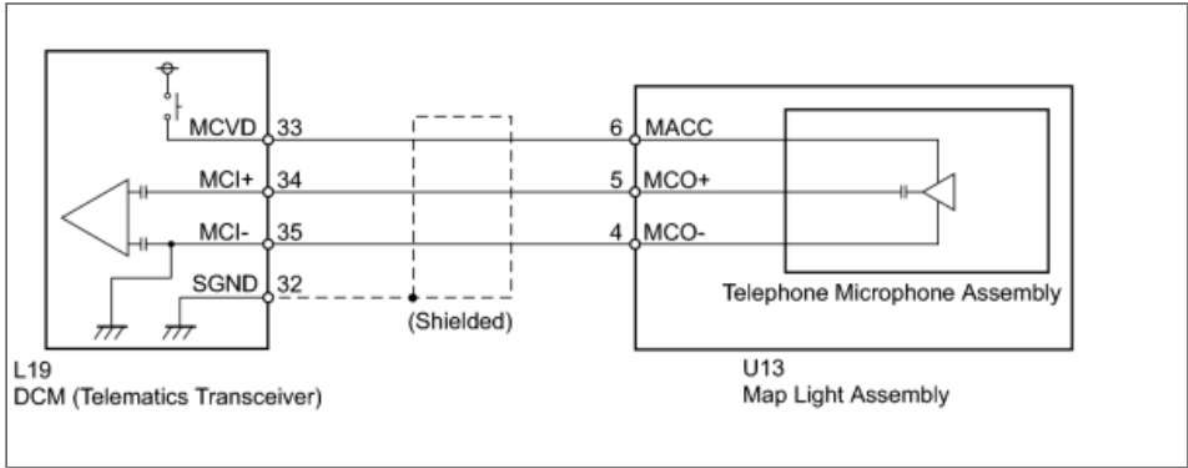
DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B1572	Current of MCVD reaches malfunction criteria for 10 seconds while power switch is on (IG).	• Wire harness or connector • Telephone microphone assembly • Map light assembly • DCM (Telematics Transceiver)

WIRING DIAGRAM

1. w/o Sliding Roof:



2. w/ Sliding Roof:



INSPECTION PROCEDURE

PROCEDURE

1.

CHECK DTC

- (a) Turn the power switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the power switch on (IG) and wait for 10 seconds.
- (d) Turn the Techstream on.
- (e) Perform "HEALTH CHECK" and check for current DTCs INFO.
- Result:

RESULT	PROCEED TO
DTC B1572 is output	A
DTC B1572 is not output	B

B

CHECK FOR INTERMITTENT PROBLEMS

A

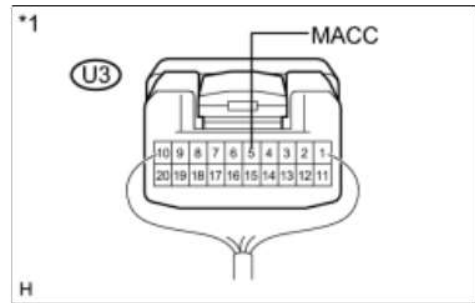
2.

INSPECT MAP LIGHT ASSEMBLY (TELEPHONE MICROPHONE POWER SOURCE)

- (a) Remove the map light assembly but do not disconnect the connectors INFO.
- (b) w/o Sliding Roof:

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

Standard Voltage:



TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
U3-5 (MACC) - Body ground	Power switch on (ACC)	4 to 6 V

Text in Illustration

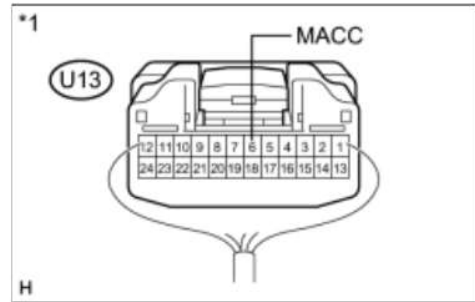
CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B1572: Telephone Microphone Error (2010 Prius)

*1	Component with harness connected (Map Light Assembly)
----	--

(c) w/ Sliding Roof:

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

Standard Voltage:



TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
U13-6 (MACC) - Body ground	Power switch on (ACC)	4 to 6 V

Text in Illustration

*1	Component with harness connected (Map Light Assembly)
----	--

NG▶INSPECT DCM (TELEMATICS TRANSCEIVER) (TELEPHONE MICROPHONE POWER SOURCE)

OK
▼

3.	CHECK HARNESS AND CONNECTOR (DCM (TELEMATICS TRANSCEIVER) - MAP LIGHT ASSEMBLY)
----	---

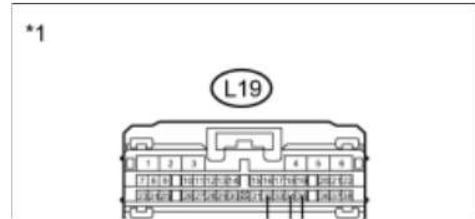
- (a) Disconnect the L19 DCM (Telematics Transceiver) connector.
- (b) Disconnect the U3*1 or U13*2 map light assembly connector.

- *1: w/o Sliding Roof
- *2: w/ Sliding Roof

(c) w/o Sliding Roof:

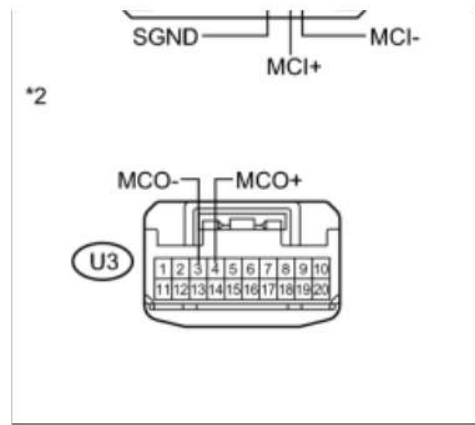
(1) Measure the resistance according to the value(s) in the table below .

Standard Resistance:



TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-34 (MCI+) - U3-4 (MCO+)	Always	Below 1 Ω
L19-35 (MCI-) - U13-3 (MCO-)	Always	Below 1 Ω

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B1572: Telephone Microphone Error (2010 Prius)



TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-34 (MCI+) - Body ground	Always	10 kΩ or higher
L19-35 (MCI-) - Body ground	Always	10 kΩ or higher
L19-32 (SGND) - Body ground	Always	10 kΩ or higher

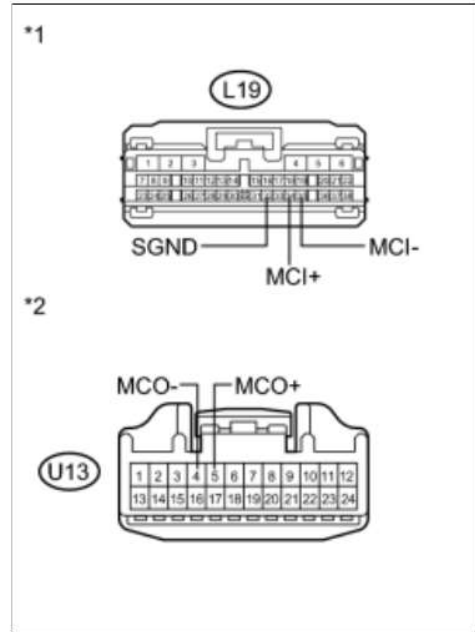
Text in Illustration

*1	Front view of wire harness connector (to DCM (Telematics Transceiver))
*2	Front view of wire harness connector (to Map Light Assembly)

(d) w/ Sliding Roof:

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

Standard Resistance:



TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-34 (MCI+) - U13-5 (MCO+)	Always	Below 1 Ω
L19-35 (MCI-) - U13-4 (MCO-)	Always	Below 1 Ω
L19-34 (MCI+) - Body ground	Always	10 kΩ or higher
L19-35 (MCI-) - Body ground	Always	10 kΩ or higher
L19-32 (SGND) - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Front view of wire harness connector (to DCM (Telematics Transceiver))
*2	Front view of wire harness connector (to Map Light Assembly)

NG REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

4. REPLACE TELEPHONE MICROPHONE ASSEMBLY

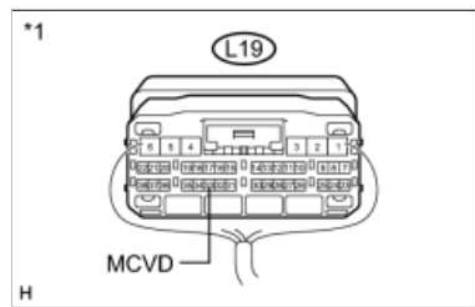
(a) Replace the telephone microphone assembly with a normal one and check if the same problem occurs

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B1572: Telephone Microphone Error (2010 Prius)

- (a) Replace the telephone microphone assembly with a normal one and check if the same problem occurs again INFO for w/o Sliding Roof, INFO for w/ Sliding Roof).
- OK:
The system returns to normal.
- NG** ▶ **REPLACE MAP LIGHT ASSEMBLY**
- OK** ▶ **END**

5.

INSPECT DCM (TELEMATICS TRANSCEIVER) (TELEPHONE MICROPHONE POWER SOURCE)



- (a) Remove the DCM (Telematics Transceiver) but do not disconnect the connectors INFO.

- (b) Measure the voltage according to the value(s) in the table below.
- Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
L19-33 (MCVD) - Body ground	Power switch on (ACC)	4 to 6 V

Text in Illustration

*1	Component with harness connected (DCM (Telematics Transceiver))
----	---

- NG** ▶ **REPLACE DCM (TELEMATICS TRANSCEIVER)**
- OK** ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

6.

REPLACE DCM (TELEMATICS TRANSCEIVER)

- (a) Replace the DCM (Telematics Transceiver) INFO.

- NOTICE:**
- The power switch must be off.
 - Do not swap the DCM (Telematics Transceiver) with one from another vehicle.

NEXT ▶ **PERFORM DCM ACTIVATION**

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B1573,B15CB: Short in Telephone Antenna Circuit (2010 Prius)

DTC	B1573	Short in Telephone Antenna Circuit
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DTC	B15CB	Telematics Transceiver Antenna Disconnected
------------	--------------	--

DESCRIPTION

This DTC is set when the DCM (Telematics Transceiver) detects an open or a short in the telephone and GPS antenna circuit. The DCM (Telematics Transceiver) oscillates and receives 824 - 894 MHz or 1850 - 1990 MHz radio-frequency through the telephone and GPS antenna assembly.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B1573	Telephone and GPS antenna assembly impedance is lower than malfunction criterion for 10 seconds when power switch is on (IG). (Short circuit)	• DCM (Telematics Transceiver) • Telephone and GPS antenna assembly • Wire harness or connector (Telephone and GPS antenna cord)
B15CB	Telephone and GPS antenna assembly impedance is higher than malfunction criterion for 10 seconds when power switch is on (IG). (Open circuit)	

HINT:

Refer to "PARTS LOCATION" for the installation location of telephone and GPS antenna cord .

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK DTC
-----------	------------------

- (a) Turn the power switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the power switch on (IG) and wait for 10 seconds.
- (d) Turn the Techstream on.
- (e) Perform "HEALTH CHECK" and check for current DTCs .

Result:

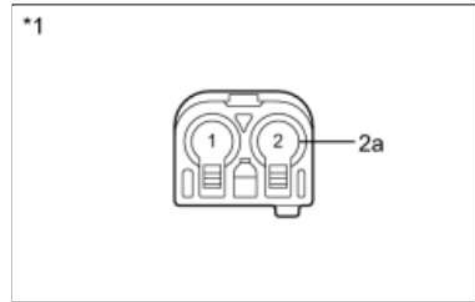
RESULT	PROCEED TO
DTC B1573 or B15CB is output	A
DTC B1573 or B15CB is not output	B

B

CHECK FOR INTERMITTENT PROBLEMS

A

2. INSPECT TELEPHONE AND GPS ANTENNA ASSEMBLY



(a) Disconnect the telephone and GPS antenna assembly connector from the telephone and GPS antenna cord (No. 5 antenna cord sub-assembly).

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

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
2 - 2a	Always	4 to 11 kΩ

Text in Illustration

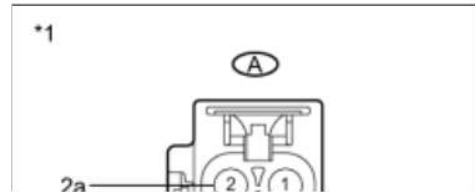
*1	Telephone and GPS Antenna Assembly
----	------------------------------------

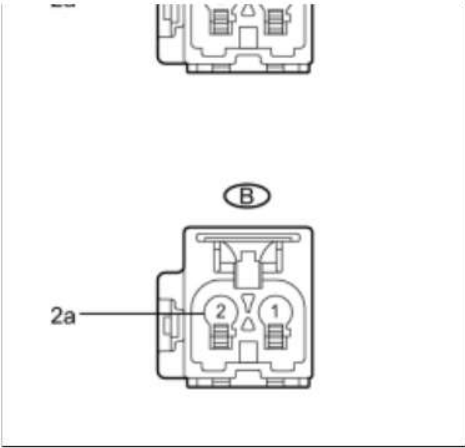
NG

REPLACE TELEPHONE AND GPS ANTENNA ASSEMBLY

OK

3. INSPECT TELEPHONE AND GPS ANTENNA CORDS (NO. 5 ANTENNA CORD SUB-ASSEMBLY)





(a) Disconnect the telephone and GPS antenna cord (No. 5 antenna cord sub-assembly) connector from the telephone and GPS antenna cord (No. 4 antenna cord sub-assembly).

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A-2 - B-2	Always	Below 1 Ω
A-2a - B-2a	Always	Below 1 Ω
A-2 - Body ground	Always	10 kΩ or higher
A-2a - Body ground	Always	10 kΩ or higher

Text in Illustration

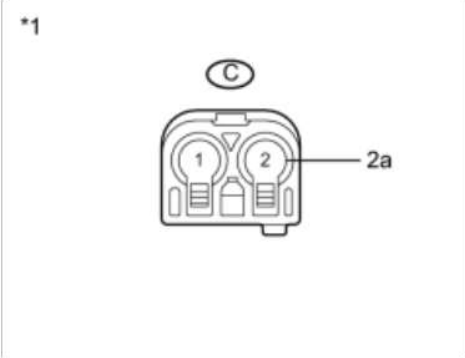
*1	Telephone and GPS Antenna Cord (No. 5 Antenna Cord Sub-assembly)
----	--

NG ▶ **REPLACE TELEPHONE AND GPS ANTENNA CORD (NO. 5 ANTENNA CORD SUB-ASSEMBLY)**

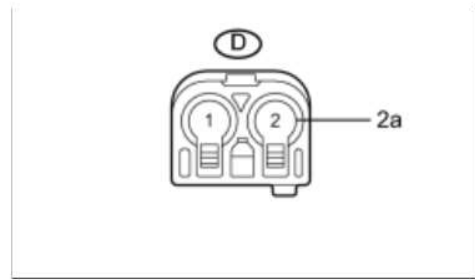
OK
▼

4.	INSPECT TELEPHONE AND GPS ANTENNA CORDS (NO. 4 ANTENNA CORD SUB-ASSEMBLY)
----	--

*1



(a) Disconnect the telephone and GPS antenna cord (No. 4 antenna cord sub-assembly) connector from the telephone and GPS antenna cord (No. 2 antenna cord sub-assembly).



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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
C-2 - D-2	Always	Below 1 Ω
C-2a - D-2a	Always	Below 1 Ω
C-2 - Body ground	Always	10 k Ω or higher
C-2a - Body ground	Always	10 k Ω or higher

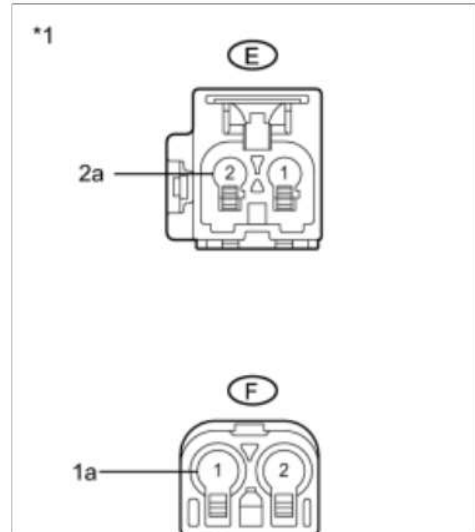
Text in Illustration

*1	Telephone and GPS Antenna Cord (No. 4 Antenna Cord Sub-assembly)
----	--

NG **REPLACE TELEPHONE AND GPS ANTENNA CORD (NO. 4 ANTENNA CORD SUB-ASSEMBLY)**

OK

5.	INSPECT TELEPHONE AND GPS ANTENNA CORDS (NO. 2 ANTENNA CORD SUB-ASSEMBLY)
----	--



(a) Disconnect the telephone and GPS antenna cord (No. 2 antenna cord sub-assembly) connector from the instrument panel wire (antenna cord sub-assembly).



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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E-2 - F-1	Always	Below 1 Ω
E-2a - F-1a	Always	Below 1 Ω
E-2 - Body ground	Always	10 kΩ or higher
E-2a - Body ground	Always	10 kΩ or higher

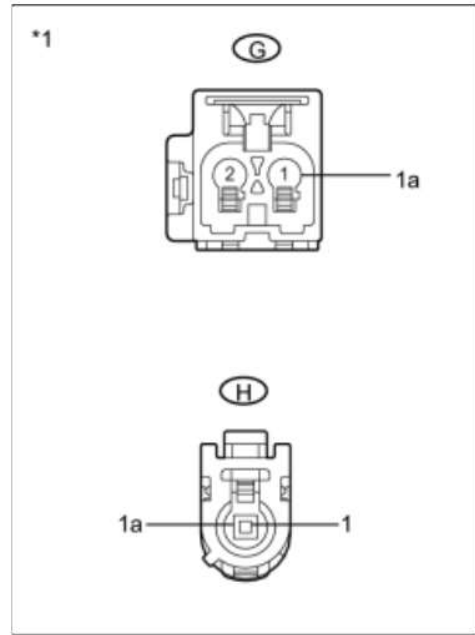
Text in Illustration

*1	Telephone and GPS Antenna Cord (No. 2 Antenna Cord Sub-assembly)
----	--

NG ▶ **REPLACE TELEPHONE AND GPS ANTENNA CORD (NO. 2 ANTENNA CORD SUB-ASSEMBLY)**

OK
▼

6. INSPECT TELEPHONE AND GPS ANTENNA CORDS (INSTRUMENT PANEL WIRE)



(a) Disconnect the instrument panel wire (antenna cord sub-assembly) cord connector from the DCM (Telematics Transceiver).

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

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B1573,B15CB: Short in Telephone Antenna Circuit (2010 Prius)

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
G-1 - H-1	Always	Below 1 Ω
G-1a - H-1a	Always	Below 1 Ω
G-1 - Body ground	Always	10 k Ω or higher
G-1a - Body ground	Always	10 k Ω or higher

Text in Illustration

*1	Telephone and GPS Antenna Cord (Instrument Panel Wire)
----	--

NG  **REPLACE INSTRUMENT PANEL WIRE (ANTENNA CORD SUB-ASSEMBLY)**

OK

7.	REPLACE TELEPHONE AND GPS ANTENNA ASSEMBLY
-----------	---

(a) Replace the telephone and GPS antenna assembly with a normal one and check if the same problem occurs again  .

OK:

The system returns to normal.

NG  **REPLACE DCM (TELEMATICS TRANSCEIVER)**

OK  **END**

8.	REPLACE DCM (TELEMATICS TRANSCEIVER)
-----------	---

(a) Replace the DCM (Telematics Transceiver)  .

NOTICE:

- The power switch must be off.
- Do not swap the DCM (Telematics Transceiver) with one from another vehicle.

NEXT  **PERFORM DCM ACTIVATION**

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B1583: GPS Signal Unreceived (2010 Prius)

DTC	B1583	GPS Signal Unreceived
------------	--------------	------------------------------

DESCRIPTION

If GPS satellite signals cannot be acquired for 10 consecutive miles, this DTC is set.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B1583	GPS signal is not received for 10 miles	• Telephone and GPS antenna assembly • DCM (Telematics Transceiver)

INSPECTION PROCEDURE

HINT:

If either DTC B15C0 or B15C1 is output at the same time, perform troubleshooting for DTC B15C0 or B15C1 first.

PROCEDURE

1. CHECK TELEPHONE AND GPS ANTENNA ASSEMBLY

(a) Check that there are no problems with the telephone and GPS antenna assembly.

OK:

The antenna is not excessively dirty, and there are no objects blocking signal reception.

NG  **REMOVE FOREIGN OBJECT**

OK



2. REPLACE TELEPHONE AND GPS ANTENNA ASSEMBLY

(a) Replace the telephone and GPS antenna assembly .

NEXT



3. CLEAR DTC

(a) Clear the DTC  .

NEXT

4. CHECK DTC

- (a) Drive the vehicle for at least 15 miles, manual (SOS) switch red indicator will illuminate at approximately 10 miles if problem still exists.
- (b) Turn the power switch off.
- (c) Connect the Techstream to the DLC3.
- (d) Turn the power switch on (IG) and wait for 10 seconds.
- (e) Turn the Techstream on.
- (f) Perform "HEALTH CHECK" and check for current DTCs  .

HINT:

Basically turning power switch off will clear the current DTC until vehicle is driven about 10 miles again with the issue.

Result:

RESULT	PROCEED TO
DTC B1583 is output	A
DTC B1583 is not output	B

B  **END**

A

5. REPLACE DCM (TELEMATICS TRANSCEIVER)

(a) Replace the DCM (Telematics Transceiver)  .

- NOTICE:**
- The power switch must be off.
 - Do not swap the DCM (Telematics Transceiver) with one from another vehicle.

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B1583: GPS Signal Unreceived (2010 Prius)

NEXT ► PERFORM DCM ACTIVATION

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B15A8: Telematics Transceiver Malfunction (2010 Prius)

DTC	B15A8	Telematics Transceiver Malfunction
------------	--------------	---

DESCRIPTION

This DTC is set when an error in the EEPROM or PLL IC is detected on the DCM (Telematics Transceiver) self-check. The EEPROM (Electrically Erasable Programmable Read-Only Memory) stores the various data to operate the Safety Connect system. The PLL IC (Phase-Locked Loop Integrated Circuit) oscillates telephone radio frequency.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15A8	Error in EEPROM or PLL IC is detected.	DCM (Telematics Transceiver)

INSPECTION PROCEDURE

NOTICE:

Regardless of whether DTC B15A8 has been output as a present or history DTC, the DCM (Telematics Transceiver) should be replaced.

PROCEDURE

1. REPLACE DCM (TELEMATICS TRANSCEIVER)

(a) Replace the DCM (Telematics Transceiver) .

NOTICE:

- The power switch must be off.
- Do not swap the DCM (Telematics Transceiver) with one from another vehicle.

NEXT  **PERFORM DCM ACTIVATION**

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B15C0,B15C1: Short in GPS Antenna (2010 Prius)

DTC	B15C0	Short in GPS Antenna
------------	--------------	-----------------------------

DTC	B15C1	Open in GPS Antenna
------------	--------------	----------------------------

DESCRIPTION

This DTC is set when the DCM (Telematics Transceiver) detects an open or a short in the telephone and GPS antenna circuit. The DCM (Telematics Transceiver) receives 1574.42 - 1576.42 MHz radio frequency signal from satellites through the telephone and GPS antenna assembly. The cable is a 50 Ω coaxial cable.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15C0	Current for telephone and GPS antenna assembly is more than malfunction criterion for 10 seconds when power switch is on (IG). (Short circuit)	• DCM (Telematics Transceiver) • Wire harness or connector (Telephone and GPS antenna cord) • Telephone and GPS antenna assembly
B15C1	Current for telephone and GPS antenna assembly is less than malfunction criterion for 10 seconds when power switch is on (IG). (Open circuit)	

HINT:

Refer to "PARTS LOCATION" for the installation location of telephone and GPS antenna cord .

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK DTC
-----------	------------------

- (a) Turn the power switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the power switch on (IG) and wait for 10 seconds.
- (d) Turn the Techstream on.
- (e) Perform "HEALTH CHECK" and check for current DTCs .

Result:

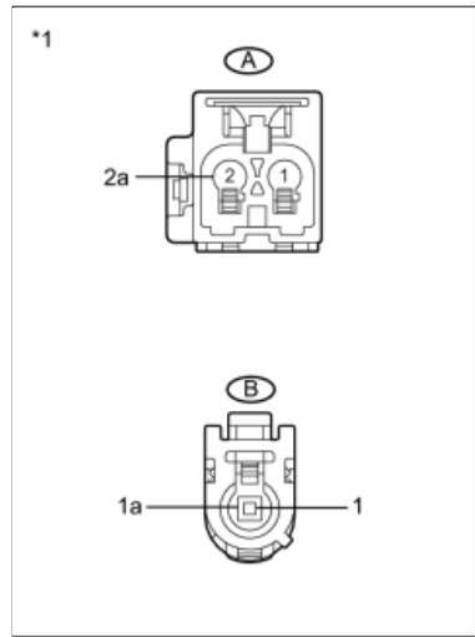
RESULT	PROCEED TO
DTC B15C0 or B15C1 is output	A
DTC B15C0 or B15C1 is not output	B

B **CHECK FOR INTERMITTENT PROBLEMS**

A


2.

INSPECT TELEPHONE AND GPS ANTENNA CORDS (INSTRUMENT PANEL WIRE)



(a) Disconnect the instrument panel wire (antenna cord sub-assembly) connector from the DCM (Telematics Transceiver).

(b) Disconnect the instrument panel wire (antenna cord sub-assembly) connector from the No. 2 antenna cord sub-assembly (antenna cord sub-assembly).

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A-2 - B-1	Always	Below 1 Ω
A-2a - B-1a	Always	Below 1 Ω
A-2 - Body ground	Always	10 kΩ or higher
A-2a - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Telephone and GPS Antenna Cord (Instrument Panel Wire)
----	--

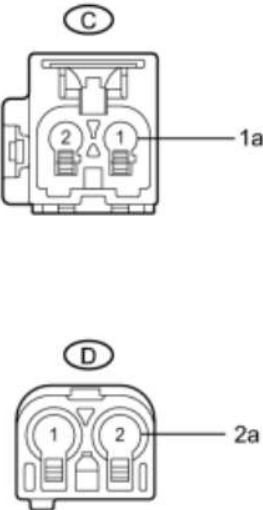
NG **REPLACE INSTRUMENT PANEL WIRE (ANTENNA CORD SUB-ASSEMBLY)**

OK

3.

INSPECT TELEPHONE AND GPS ANTENNA CORDS (NO. 2 ANTENNA CORD SUB-ASSEMBLY)

*1



(a) Disconnect the telephone and GPS antenna cord (No. 2 antenna cord sub-assembly) connector from the telephone and GPS antenna cord (No. 4 antenna cord sub-assembly).

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
C-1 - D-2	Always	Below 1 Ω
C-1a - D-2a	Always	Below 1 Ω
C-1 - Body ground	Always	10 k Ω or higher
C-1a - Body ground	Always	10 k Ω or higher

Text in Illustration

*1

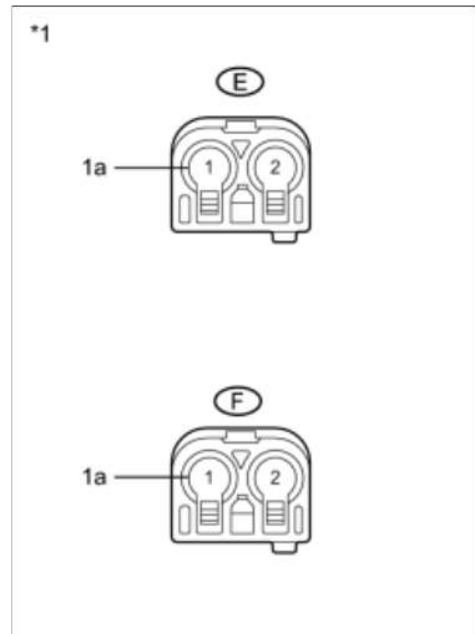
Telephone and GPS Antenna Cord (No. 2 Antenna Cord Sub-assembly)

NG▶ REPLACE TELEPHONE AND GPS ANTENNA CORD (NO. 2 ANTENNA CORD SUB-ASSEMBLY)

OK

4.

INSPECT TELEPHONE AND GPS ANTENNA CORDS (NO. 4 ANTENNA CORD SUB-ASSEMBLY)



(a) Disconnect the telephone and GPS antenna cord (No. 4 antenna cord sub-assembly) connector from the telephone and GPS antenna cord (No. 5 antenna cord sub-assembly).

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

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E-1 - F-1	Always	Below 1 Ω
E-1a - F-1a	Always	Below 1 Ω
E-1 - Body ground	Always	10 kΩ or higher
E-1a - Body ground	Always	10 kΩ or higher

Text in Illustration

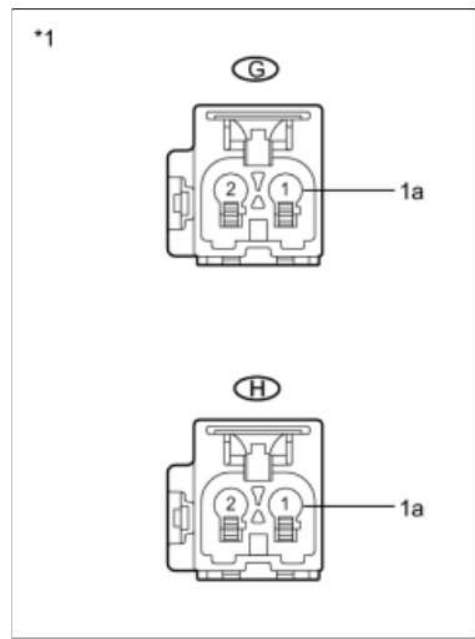
*1	Telephone and GPS Antenna Cord (No. 4 Antenna Cord Sub-assembly)
----	--

NG ▶ REPLACE TELEPHONE AND GPS ANTENNA CORD (NO. 4 ANTENNA CORD SUB-ASSEMBLY)

OK
▼

5.

INSPECT TELEPHONE AND GPS ANTENNA CORDS (NO. 5 ANTENNA CORD SUB-ASSEMBLY)



(a) Disconnect the telephone and GPS antenna cord (No. 5 antenna cord sub-assembly) connector from the telephone and GPS antenna assembly.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
G-1 - H-1	Always	Below 1 Ω
G-1a - H-1a	Always	Below 1 Ω
G-1 - Body ground	Always	10 kΩ or higher
G-1a - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Telephone and GPS Antenna Cord (No. 5 Antenna Cord Sub-assembly)
----	--

NG ▶ **REPLACE TELEPHONE AND GPS ANTENNA CORD (NO. 5 ANTENNA CORD SUB-ASSEMBLY)**

OK
▼

6. REPLACE TELEPHONE AND GPS ANTENNA ASSEMBLY

(a) Replace the telephone and GPS antenna assembly with a normal one and check if the same problem occurs again **INFO** .

OK:
The system returns to normal

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B15C0,B15C1: Short in GPS Antenna (2010 Prius)

The system returns to normal.

NG ► **REPLACE DCM (TELEMATICS TRANSCEIVER)**

OK ► **END**

7. REPLACE DCM (TELEMATICS TRANSCEIVER)

(a) Replace the DCM (Telematics Transceiver) .

NOTICE:

- The power switch must be off.
- Do not swap the DCM (Telematics Transceiver) with one from another vehicle.

NEXT ► **PERFORM DCM ACTIVATION**

DTC

B15C4

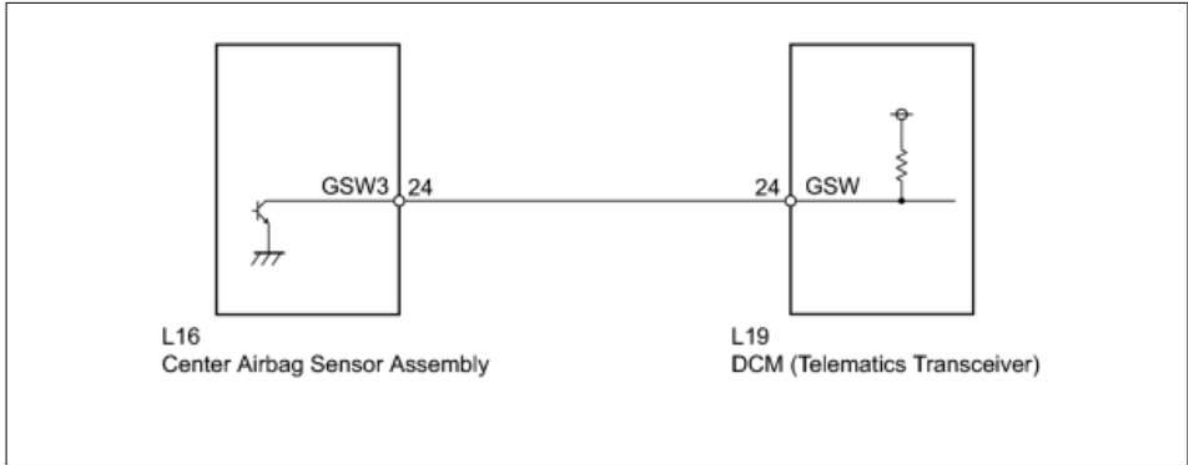
Airbag Signal Malfunction/Not Input

DESCRIPTION

If the DCM (Telematics Transceiver) detects an error in communication between the DCM (Telematics Transceiver) and the center airbag sensor assembly as a result of the DCM (Telematics Transceiver) self check, this DTC will be set.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15C4	DCM (Telematics Transceiver) detects an error in signals from center airbag sensor assembly when power switch is on (IG).	• Airbag system • Wire harness or connector • Center airbag sensor assembly • DCM (Telematics Transceiver)

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	CHECK DTC (AIRBAG SYSTEM)
----	---------------------------

- (a) Turn the power switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the power switch on (IG) and wait for 10 seconds.
- (d) Turn the Techstream on.

(e) Check the DTC of "AIRBAG SYSTEM" INFO .

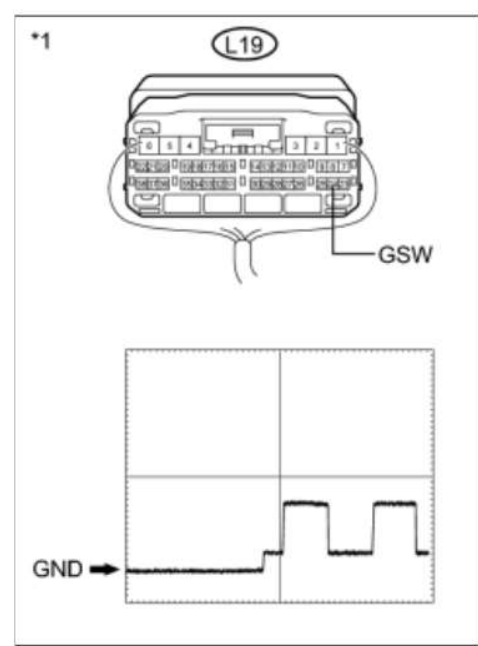
Result:

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

B  **GO TO AIRBAG SYSTEM**

A


2. **INSPECT DCM (TELEMATICS TRANSCEIVER) (GSW SIGNAL)**



(a) Remove the DCM (Telematics Transceiver) but do not disconnect the connectors INFO .

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

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
L19-24 (GSW) - Body ground	Power switch on (IG)	6.5 to 8.5 V

Text in Illustration

*1	Component with harness connected (DCM (Telematics Transceiver))
----	---

Result:

RESULT	PROCEED TO
8.5 V or higher	A
Below 6.5 V	B
6.5 V to 8.5 V	C

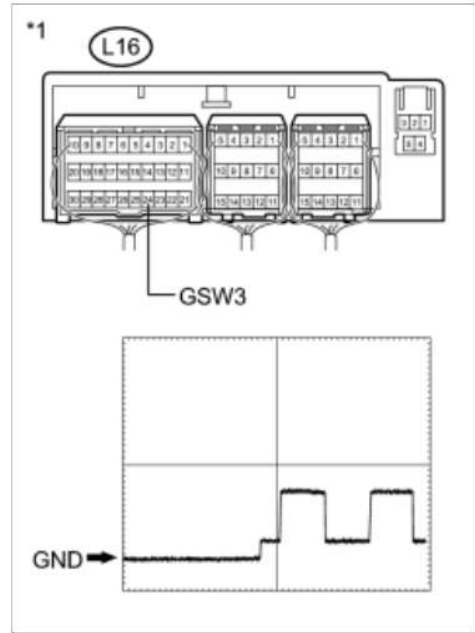
Reference Waveform

ITEM	CONDITION
Tester connection	L19-24 (GSW) - Body ground
Tool setting	5.0 V/DIV., 20 ms/DIV.
Vehicle condition	Power switch on (IG)

- C▶ REPLACE DCM (TELEMATICS TRANSCEIVER)
- B▶ CHECK HARNESS AND CONNECTOR (FOR SHORT CIRCUIT)

A

3.	CHECK HARNESS AND CONNECTOR (FOR OPEN CIRCUIT)
----	--



(a) Remove the center airbag sensor assembly but do not disconnect the connectors INFO

- (b) Measure the voltage according to the value(s) in the table below.
- Standard Voltage:

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B15C4: Airbag Signal Malfunction/Not Input (2010 Prius)

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
L16-24 (GSW3) - Body ground	Power switch on (IG)	8.5 V or higher

Text in Illustration

*1	Component with harness connected (Center Airbag Sensor Assembly)
----	---

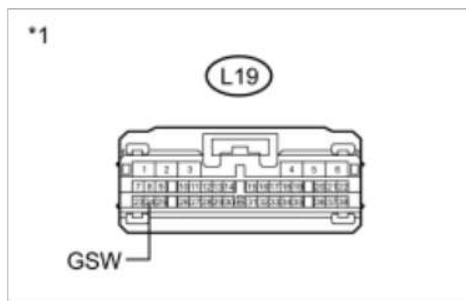
Reference Waveform

ITEM	CONDITION
Tester connection	L16-24 (GSW3) - Body ground
Tool setting	5.0 V/DIV., 20 ms/DIV.
Vehicle condition	Power switch on (IG)

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ► REPLACE CENTER AIRBAG SENSOR ASSEMBLY

4.	CHECK HARNESS AND CONNECTOR (FOR SHORT CIRCUIT)
-----------	--



(a) Disconnect the L19 DCM (Telematics Transceiver) connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-24 (GSW) - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Front view of wire harness connected (DCM (Telematics Transceiver))
----	--

NG ► CHECK HARNESS AND CONNECTOR (DCM (TELEMATICS TRANSCEIVER) - CENTER AIRBAG SENSOR ASSEMBLY)

OK

▼

5.

REPLACE DCM (TELEMATICS TRANSCEIVER)

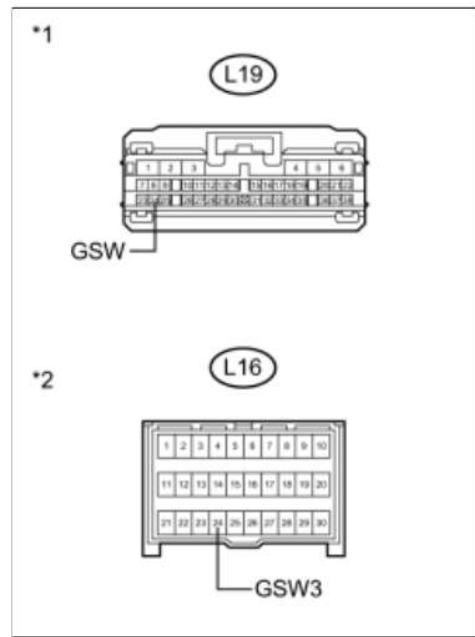
(a) Replace the DCM (Telematics Transceiver) INFO .

- NOTICE:**
- The power switch must be off.
 - Do not swap the DCM (Telematics Transceiver) with one from another vehicle.

NEXT ► **PERFORM DCM ACTIVATION**

6.

CHECK HARNESS AND CONNECTOR (DCM (TELEMATICS TRANSCEIVER) - CENTER AIRBAG SENSOR ASSEMBLY)



(a) Disconnect the L19 DCM (Telematics Transceiver) connector.

- (b) Disconnect the L16 center airbag sensor connector.
- (c) Measure the resistance according to the value(s) in the table below.
- Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-24 (GSW) - L16-24 (GSW3)	Always	Below 1 Ω
L19-24 (GSW) - Body ground	Always	10 kΩ or higher

Text in Illustration

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B15C4: Airbag Signal Malfunction/Not Input (2010 Prius)

*1	Front view of wire harness connector (to DCM (Telematics Transceiver))
*2	Front view of wire harness connector (to Center Airbag Sensor Assembly)

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

OK ► **REPLACE CENTER AIRBAG SENSOR ASSEMBLY**

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B15C5: Manual Button Malfunction (2010 Prius)

DTC

B15C5

Manual Button Malfunction

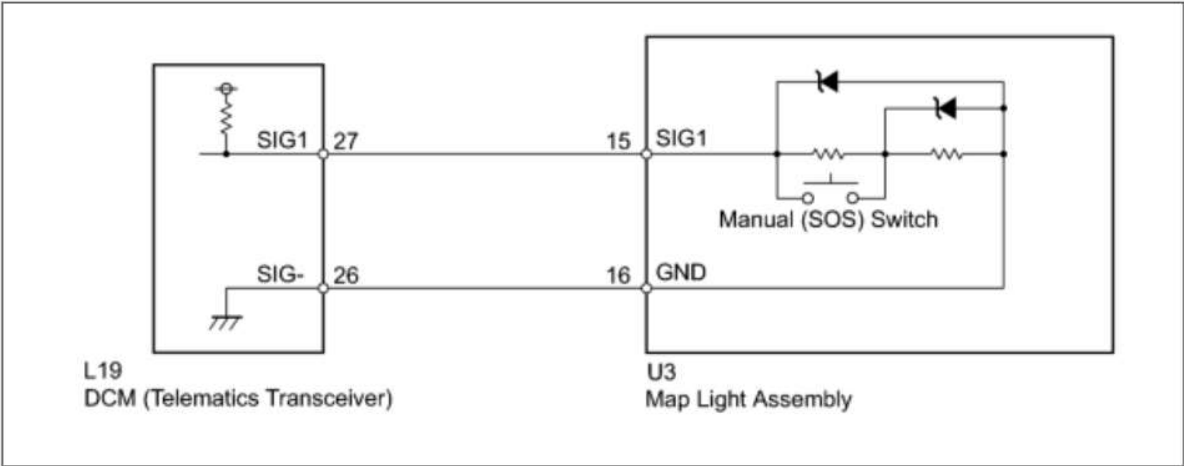
DESCRIPTION

This DTC is set when the DCM (Telematics Transceiver) detects an open or short circuit in the manual (SOS) switch.

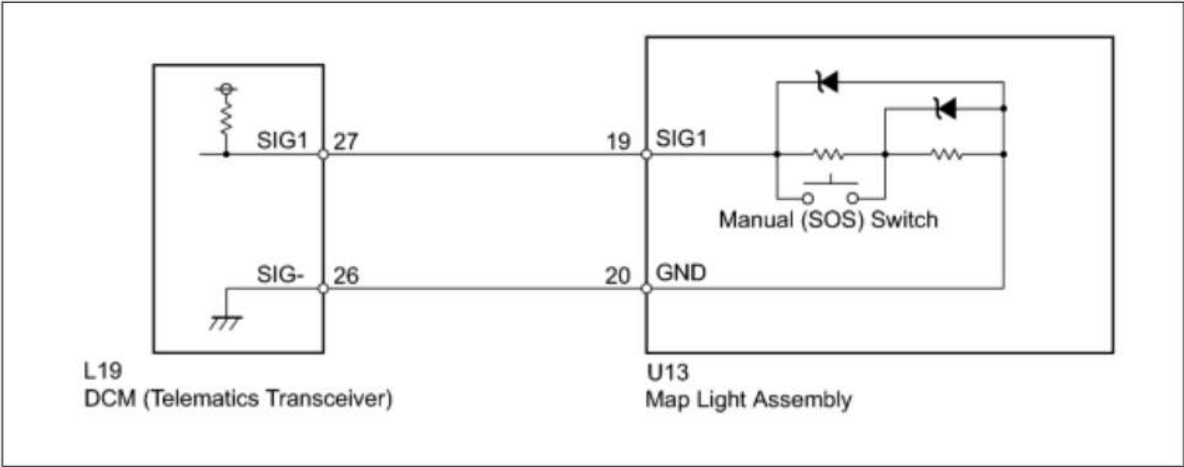
DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15C5	Open or short circuit in manual (SOS) switch is detected.	• DCM (Telematics Transceiver) • Map light assembly • Wire harness or connector

WIRING DIAGRAM

1. w/o Sliding Roof:



2. w/ Sliding Roof:



INSPECTION PROCEDURE

PROCEDURE

1. READ VALUE USING TECHSTREAM (MANUAL (SOS) SWITCH OPERATION)

- (a) Turn the power switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the power switch on (IG) and wait for 10 seconds.
- (d) Turn the Techstream on.
- (e) Enter the following menus: Body Electrical / Telematics / Data List.
- (f) Check that the manual (SOS) switch condition observed on the Techstream changes according to manual (SOS) switch operation.

Telematics (DCM (Telematics Transceiver))

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Emergency Switch	Manual (SOS) switch / OFF or ON	OFF: Manual (SOS) switch not pressed	-
		ON: Manual (SOS) switch pressed	-

Result:

RESULT	PROCEED TO
Techstream display changes when turning the manual (SOS) switch ON/OFF.	A
Techstream display does not change when turning the manual (SOS) switch ON/OFF.	B

B ▶ **INSPECT DCM (TELEMATICS TRANSCEIVER) (SIG1 VOLTAGE)**

A
▼

2. REPLACE DCM (TELEMATICS TRANSCEIVER)

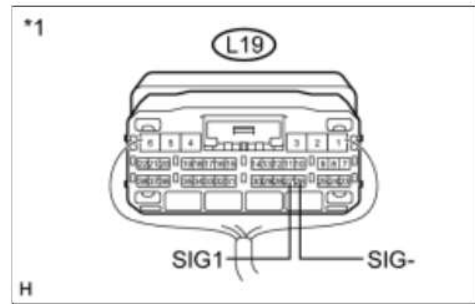
- (a) Replace the DCM (Telematics Transceiver)  .

NOTICE:

- The power switch must be off.
- Do not swap the DCM (Telematics Transceiver) with one from another vehicle.

NEXT ▶ **PERFORM DCM ACTIVATION**

3. INSPECT DCM (TELEMATICS TRANSCEIVER) (SIG1 VOLTAGE)



(a) Remove the DCM (Telematics Transceiver) but do not disconnect the connectors [INFO](#) .

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

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
L19-27 (SIG1) - L19-26 (SIG-)	Power switch on (IG), manual (SOS) switch not pressed	1.5 to 2.0 V

Text in Illustration

*1	Component with harness connected (DCM (Telematics Transceiver))
----	--

NG ► [INSPECT MAP LIGHT ASSEMBLY \(MANUAL \(SOS\) SWITCH\)](#)

OK
▼

4. REPLACE DCM (TELEMATICS TRANSCEIVER)

(a) Replace the DCM (Telematics Transceiver) [INFO](#) .

NOTICE:

- The power switch must be off.
- Do not swap the DCM (Telematics Transceiver) with one from another vehicle.

NEXT ► [PERFORM DCM ACTIVATION](#)

5. INSPECT MAP LIGHT ASSEMBLY (MANUAL (SOS) SWITCH)

(a) Disconnect the U3*1 or U13*2 map light assembly connector.

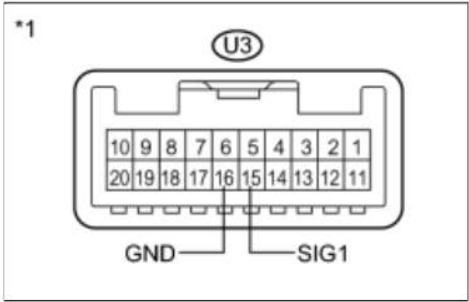
CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B15C5: Manual Button Malfunction (2010 Prius)

- *1: w/o Sliding Roof
- *2: w/ Sliding Roof

(b) w/o Sliding Roof:

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

Standard Resistance:



TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
U3-15 (SIG1) - U3-16 (GND)	Manual (SOS) switch not pressed	410 to 414 Ω
U3-15 (SIG1) - U3-16 (GND)	Manual (SOS) switch pressed	81 to 83 Ω

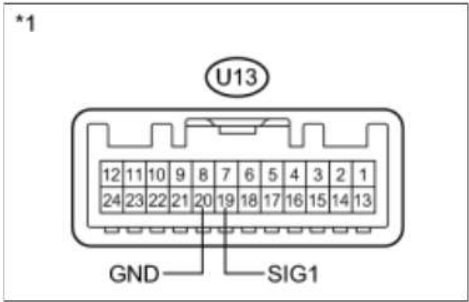
Text in Illustration

*1	Component without harness connected (Map Light Assembly)
----	---

(c) w/ Sliding Roof:

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

Standard Resistance:



TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
U13-19 (SIG1) - U13-20 (GND)	Manual (SOS) switch not pressed	410 to 414 Ω
U13-19 (SIG1) - U13-20 (GND)	Manual (SOS) switch pressed	81 to 83 Ω

Text in Illustration

*1	Component without harness connected (Map Light Assembly)
----	---

NG▶ REPLACE MAP LIGHT ASSEMBLY

OK
▼

6.

CHECK HARNESS AND CONNECTOR (DCM (TELEMATICS TRANSCEIVER) - MAP LIGHT ASSEMBLY)

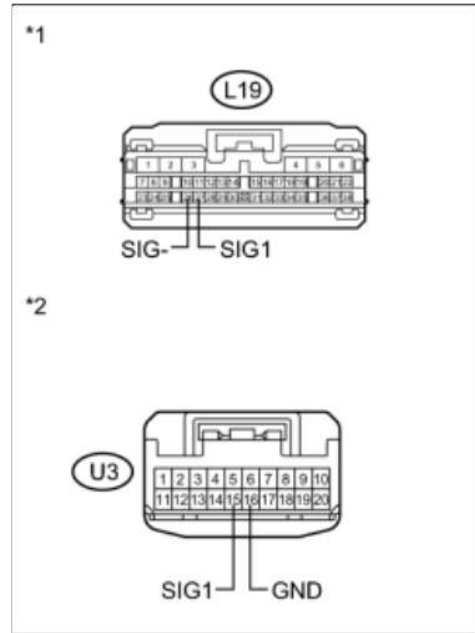
- (a) Disconnect the L19 DCM (Telematics Transceiver) connector.
- (b) Disconnect the U3*1 or U13*2 map light assembly connector.
- *1: w/o Sliding Roof
 - *2: w/ Sliding Roof

(c) w/o Sliding Roof:

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-27 (SIG1) - U3-15 (SIG1)	Always	Below 1 Ω
L19-26 (SIG-) - U3-16 (GND)	Always	Below 1 Ω
L19-27 (SIG1) - Body ground	Always	10 kΩ or higher
L19-26 (SIG-) - Body ground	Always	10 kΩ or higher



Text in Illustration

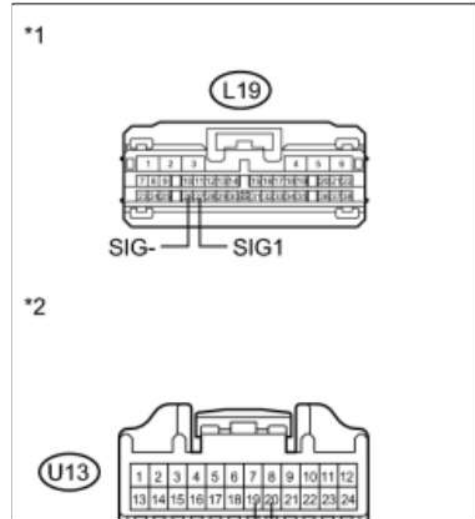
*1	Front view of wire harness connector (to DCM (Telematics Transceiver))
*2	Front view of wire harness connector (to Map Light Assembly)

(d) w/ Sliding Roof:

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

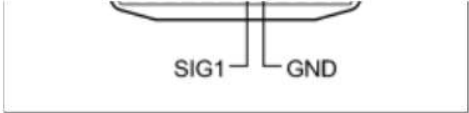
Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-27 (SIG1) - U13-19 (SIG1)	Always	Below 1 Ω
L19-26 (SIG-) - U13-20 (GND)	Always	Below 1 Ω
L19-27 (SIG1) - Body ground	Always	10 kΩ or higher
L19-26 (SIG-) - Body ground	Always	10 kΩ or higher



Text in Illustration

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B15C5: Manual Button Malfunction (2010 Prius)



*1	Front view of wire harness connector (to DCM (Telematics Transceiver))
*2	Front view of wire harness connector (to Map Light Assembly)

NG **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

7.

REPLACE DCM (TELEMATICS TRANSCEIVER)

(a) Replace the DCM (Telematics Transceiver) .

NOTICE:

- The power switch must be off.
- Do not swap the DCM (Telematics Transceiver) with one from another vehicle.

NEXT **PERFORM DCM ACTIVATION**

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B15CC: Backup Battery Failure (2010 Prius)

DTC

B15CC

Backup Battery Failure

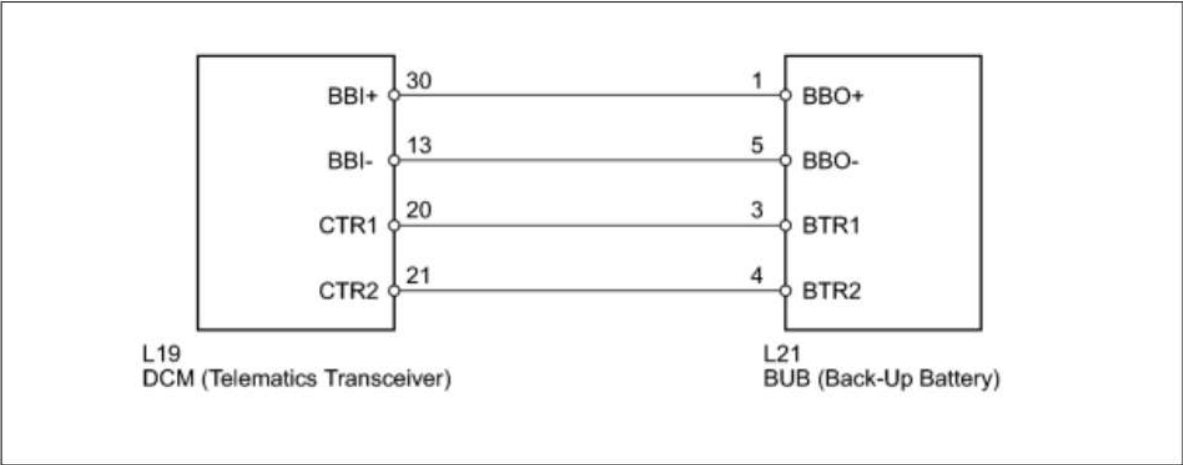
DESCRIPTION

This DTC is set when the DCM (Telematics Transceiver) detects one of the following:

- Open or short in the BUB (Back-Up Battery) circuit.
- The BUB (Back-Up Battery) voltage drops or the BUB (Back-Up Battery) malfunctions.
- The BUB (Back-Up Battery) temperature is (temporarily) high.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15CC	BUB (Back-Up Battery) malfunction	• Wire harness or connector • BUB (Back-Up Battery) • DCM (Telematics Transceiver)

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	CHECK DTC
----	-----------

- (a) Turn the power switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the power switch on (IG) and wait for 10 seconds.
- (d) Turn the Techstream on.
- (e) Perform "HEALTH CHECK" and check for current DTCs INFO.

Result:

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B15CC: Backup Battery Failure (2010 Prius)

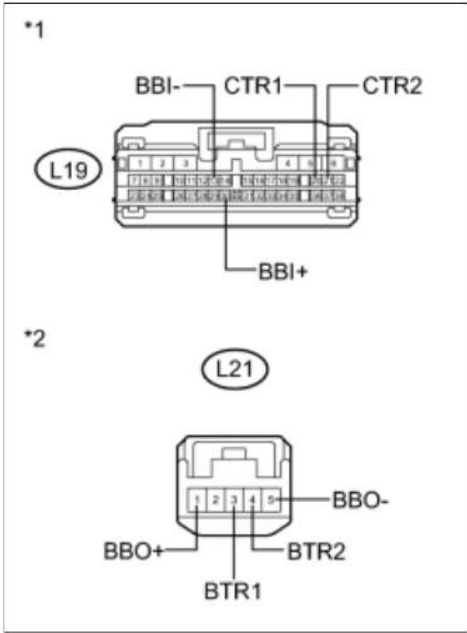
RESULT

RESULT	PROCEED TO
DTC B15CC is output	A
DTC B15CC is not output	B

B **CHECK FOR INTERMITTENT PROBLEMS**

A

2.	CHECK HARNESS AND CONNECTOR (DCM (TELEMATICS TRANSCEIVER) - BUB (BACK-UP BATTERY))
----	---



(a) Disconnect the L19 DCM (Telematics Transceiver) connector.

- (b) Disconnect the L21 BUB (Back-Up Battery) connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-30 (BBI+) - L21-1 (BBO+)	Always	Below 1 Ω
L19-13 (BBI-) - L21-5 (BBO-)	Always	Below 1 Ω
L19-20 (CTR1) - L21-3 (BTR1)	Always	Below 1 Ω
L19-21 (CTR2) - L21-4 (BTR2)	Always	Below 1 Ω
L19-30 (BBI+) - Body ground	Always	10 kΩ or higher
L19-13 (BBI-) - Body ground	Always	10 kΩ or higher

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B15CC: Backup Battery Failure (2010 Prius)

L19-20 (CTR1) - Body ground	Always	10 kΩ or higher
L19-21 (CTR2) - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Front view of wire harness connector (to DCM (Telematics Transceiver))
*2	Front view of wire harness connector (to BUB (Back-Up Battery))

NG▶ REPAIR OR REPLACE HARNESS OR CONNECTOR

OK▼

3. REPLACE BUB (BACK-UP BATTERY)

(a) Replace the BUB (Back-Up Battery) with a normal one and check if the same problem occurs again  .

NOTICE:
The BUB (Back-Up Battery) must not be replaced while an ACN call is in progress.

NEXT▼

4. CLEAR DTC

(a) Clear the DTC  .

NEXT▼

5. RECHECK DTC

(a) Recheck for DTCs and check if the same trouble occurs again  .

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B15CC: Backup Battery Failure (2010 Prius)

OK.

No DTC is output.

NG ► **REPLACE DCM (TELEMATICS TRANSCEIVER)****OK** ► **END****6. REPLACE DCM (TELEMATICS TRANSCEIVER)**(a) Replace the DCM (Telematics Transceiver) .**NOTICE:**

- The power switch must be off.
- Do not swap the DCM (Telematics Transceiver) with one from another vehicle.

NEXT ► **PERFORM DCM ACTIVATION**

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: B15EC: Backup Battery Degradation (2010 Prius)

DTC	B15EC	Backup Battery Degradation
------------	--------------	-----------------------------------

DESCRIPTION

This DTC is set when the DCM (Telematics Transceiver) detects either of the following conditions.

- The BUB (Back-Up Battery) charge level becomes less than the criteria.
- Automatic Collision Notification (ACN) occurred.

When this DTC is set, the BUB (Back-Up Battery) must be replaced.

BUB (Back-Up Battery) degradation DTC B15EC is not reported in deactive mode.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15EC	BUB (Back-Up Battery) is deteriorated.	BUB (Back-Up Battery)

INSPECTION PROCEDURE

NOTICE:

- If this DTC is set, be certain to replace the BUB (Back-Up Battery) with a new one.
- After the BUB (Back-Up Battery) is replaced, it is necessary to clear this DTC.
- The BUB (Back-Up Battery) must not be replaced while an ACN call is in progress.

PROCEDURE

1. CHECK DTC

- Turn the power switch off.
- Connect the Techstream to the DLC3.
- Turn the power switch on (IG) and wait for 10 seconds.
- Turn the Techstream on.
- Perform "HEALTH CHECK" and check for current DTCs  .

Result:

RESULT	PROCEED TO
DTC B15EC is output	A
DTC B15EC is not output	B

B  **CHECK FOR INTERMITTENT PROBLEMS**

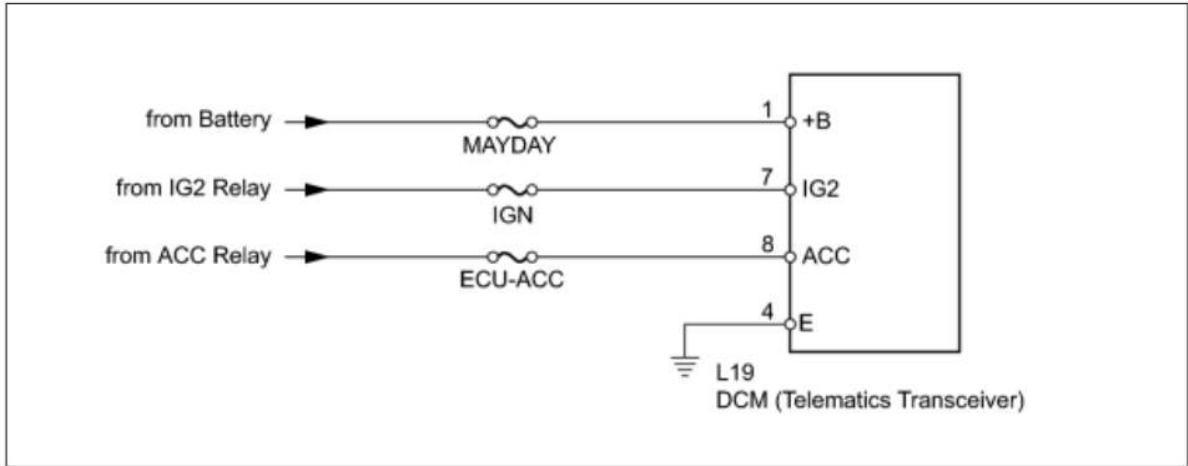
A  **REPLACE BUB (BACK-UP BATTERY)**

DCM POWER SOURCE CIRCUIT

DESCRIPTION

This is the power source circuit to operate the DCM (Telematics Transceiver).

WIRING DIAGRAM

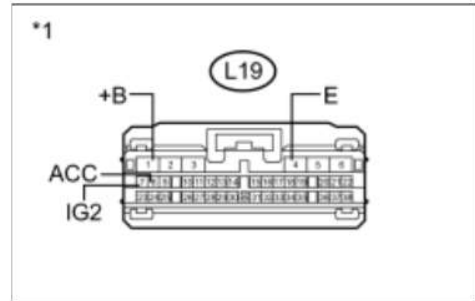


INSPECTION PROCEDURE

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

PROCEDURE

1.
- CHECK HARNESS AND CONNECTOR (DCM (TELEMATICS TRANSCEIVER) - BATTERY AND BODY GROUND)



(a) Disconnect the L19 DCM (Telematics Transceiver) connector.

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

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-4 (E) - Body ground	Always	Below 1 Ω

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: DCM POWER SOURCE CIRCUIT (2010 Prius)

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-1 (+B) - L19-4 (E)	Power switch off	11 to 14 V
L19-7 (IG2) - L19-4 (E)	Power switch on (IG)	11 to 14 V
L19-8 (ACC) - L19-4 (E)	Power switch on (ACC)	11 to 14 V

Text in Illustration

*1	Front view of wire harness connector (to DCM (Telematics Transceiver))
----	---

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ► PROCEED TO NEXT SUSPECTED AREA SHOWN IN
PROBLEM SYMPTOMS TABLE

GREEN AND RED INDICATORS BLINK SIMULTANEOUSLY**DESCRIPTION**

After the power switch on (IG), the DCM (Telematics Transceiver) will enter into a self check mode. The manual (SOS) switch red indicator will illuminate for 2 seconds and turn off followed by the manual (SOS) switch green indicator illuminating and remaining on under normal operation.

If both indicators illuminate and begin to blink simultaneously, this indicates that the DCM (Telematics Transceiver) is in "Shipping Mode." If no DTCs are present, both the green and red indicators will turn off after blinking. The activation sequence must be performed.

HINT:

In shipping mode, the system will attempt to activate to shell mode automatically at each power switch on (IG).

INSPECTION PROCEDURE**PROCEDURE****1. CHANGE SUBSCRIPTION MODE**

- (a) Turn the power switch on (IG).
- (b) Push the manual (SOS) switch.
- (c) The vehicle will issue a voice prompt: "Safety Connect is not initialized. To activate, please press the button again within 5 seconds."
- (d) Push the manual (SOS) switch and a beep will be emitted.
- (e) That telematics service provider will send an End Call command and the manual (SOS) switch green indicator will illuminate.
- (f) A voice prompt will state: "Activation Complete" (This may take up to 3 minutes)
- (g) Turn the power switch off.

NEXT**2. CHECK SUBSCRIPTION MODE**

- (a) Turn the power switch on (IG).
- (b) Confirm the manual (SOS) switch red indicator illuminates for 2 seconds and turns off and the manual (SOS) switch green indicator illuminates and remains on .

CELLULAR COMMUNICATION; SAFETY CONNECT SYSTEM: GREEN AND RED INDICATORS BLINK SIMULTANEOUSLY (2010 Prius)

NEXT  **END**

GREEN AND RED INDICATORS DO NOT COME ON WHEN IG-ON

DESCRIPTION

If the red and green indicators fail to illuminate after the power switch on (IG), the vehicle does not recognize the DCM (Telematics Transceiver). The DCM (Telematics Transceiver) connectors may have been disconnected or the DCM (Telematics Transceiver) is malfunctioning.

INSPECTION PROCEDURE

PROCEDURE

1.

HEALTH CHECK

- (a) Turn the power switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the power switch on (IG) and wait for 10 seconds.
- (d) Turn the Techstream on.
- (e) Perform "Health Check" using the Techstream and check that Telematics (Safety Connect) is listed on "Health Check Result" .

Result:

RESULT	PROCEED TO
"Telematics" is displayed on the Techstream	A
"Telematics" is not displayed on the Techstream	B

B ▶ PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE

A
▼

2.

CHECK DTC

- (a) Turn the power switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the power switch on (IG) and wait for 10 seconds.
- (d) Turn the Techstream on.

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: GREEN AND RED INDICATORS DO NOT COME ON WHEN IG-ON (2010 Prius)

(e) Check current DTC and history DTCs  .

Result:

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

- B**  **GO TO DIAGNOSTIC TROUBLE CODE CHART**
- A**  **CHECK FOR INTERMITTENT PROBLEMS**

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: GREEN INDICATOR REMAINS OFF (2010 Prius)

GREEN INDICATOR REMAINS OFF

DESCRIPTION

After the power switch on (IG), the DCM (Telematics Transceiver) will enter into a self check mode. The manual (SOS) switch red indicator will illuminate for 2 seconds and turn off followed by the manual (SOS) switch green indicator illuminating and remaining on under normal operation. If neither the red nor green indicators remain on, verification of the subscription should be performed.

INSPECTION PROCEDURE

PROCEDURE

1.

CONFIRM GREEN INDICATOR COMES ON

- (a) After the power switched on (IG) and the manual (SOS) switch red indicator has come on for 2 seconds, confirm that the manual (SOS) switch green indicator comes on for 2 seconds.
- OK:
- Green indicator comes on.

NG▶CHECK DTC

OK
▼

2.

CONFIRM SUBSCRIPTION MODE

- (a) Confirm the indicator status at 5 seconds after power switch on (IG).
- Result:

RESULT	PROCEED TO
Green indicator remains on	A
Green indicator remains off	B
Red and Green indicators both flash (1 second intervals, for 20 seconds)	C

HINT:

If red and green indicator are flashing, the system is in shipping mode, so the system should be changed to either active mode or deactive mode.

C▶CHANGE SUBSCRIPTION MODE

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: GREEN INDICATOR REMAINS OFF (2010 Prius)

B ► INPUT VIN WITH TECHSTREAM**A ► CHECK FOR INTERMITTENT PROBLEMS****3. INPUT VIN WITH TECHSTREAM**

- (a) Turn the power switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the power switch on (IG) and wait for 10 seconds.
- (d) Turn the Techstream on.
- (e) Select "Vehicle Inquiry" and input VIN.

NEXT**4. CONFIRM SUBSCRIPTION MODE**

- (a) Confirm the indicator status at 5 seconds after the power switch on (IG).

Result:

RESULT	PROCEED TO
Green indicator remains on	A
Green indicator remains off	B

B ► REPLACE DCM (TELEMATICS TRANSCEIVER)**A ► END****5. REPLACE DCM (TELEMATICS TRANSCEIVER)**

- (a) Replace the DCM (Telematics Transceiver) .

NOTICE:

- The power switch must be off.
- Do not swap the DCM (Telematics Transceiver) with one from another vehicle.

NEXT ► PERFORM DCM ACTIVATION

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: GREEN INDICATOR REMAINS OFF (2010 Prius)

6. CHECK DTC

- (a) Turn the power switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the power switch on (IG) and wait for 10 seconds.
- (d) Turn the Techstream on.
- (e) Perform "HEALTH CHECK" and check for current DTCs  .

Result:

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

B  **GO TO DIAGNOSTIC TROUBLE CODE CHART****A****7. REPLACE DCM (TELEMATICS TRANSCEIVER)**

- (a) Replace the DCM (Telematics Transceiver)  .

NOTICE:

- The power switch must be off.
- Do not swap the DCM (Telematics Transceiver) with one from another vehicle.

NEXT  **PERFORM DCM ACTIVATION**

RED INDICATOR REMAINS ON

DESCRIPTION

When the red indicator remains on, this means that the DCM (Telematics Transceiver) has detected a malfunction in the Safety Connect system and set a DTC.

INSPECTION PROCEDURE

PROCEDURE

1. CHECK DTC

- (a) Turn the power switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the power switch on (IG) and wait for 10 seconds.
- (d) Turn the Techstream on.
- (e) Perform "HEALTH CHECK" and check for current DTCs INFO.
- Result:

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

B  GO TO DIAGNOSTIC TROUBLE CODE CHART

A


2. REPLACE DCM (TELEMATICS TRANSCEIVER)

- (a) Replace the DCM (Telematics Transceiver) INFO.

- NOTICE:
- The power switch must be off.
 - Do not swap the DCM (Telematics Transceiver) with one from another vehicle.

NEXT  PERFORM DCM ACTIVATION

CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: UNABLE TO CONNECT TO CALL CENTER (2010 Prius)

UNABLE TO CONNECT TO CALL CENTER**DESCRIPTION**

This may occur when the intensity of telephone radio frequency was very weak, PRL updates are required, or the Safety Connect system has a malfunction and a DTC is set.

INSPECTION PROCEDURE**PROCEDURE****1. CHECK COMMUNICATION SERVICE CONDITION**

(a) Move the vehicle.

- (1) If the vehicle is outside the communication service area, move the vehicle to a communication service area, wait for a while and perform the operation again.

OK:

Same problem does not occur.

NG ► **CHECK DTC**

OK ► **END**

2. CHECK DTC

(a) Turn the power switch off.

(b) Connect the Techstream to the DLC3.

(c) Turn the power switch on (IG) and wait for 10 seconds.

(d) Turn the Techstream on.

(e) Perform "HEALTH CHECK" and check for current DTCs .

Result:

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

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

A



CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: UNABLE TO CONNECT TO CALL CENTER (2010 Prius)

3. CHECK PRL UPDATE(a) Check for PRL update .

(b) Check if the same problem occurs again.

OK:

Same problem does not occur.

NG  **CHECK DCM OPERATION HISTORY****OK**  **END****4. CHECK DCM OPERATION HISTORY**(a) Check "DCM OPERATION HISTORY" .

Result:

RESULT	PROCEED TO
Signal strength is weak (0 or 1)	A
Communication indicates "Fail"	
No problems with signal strength or communication	B

HINT:

If there was a communication problem in the past but the communications are working correctly now, it is possible that the source of the problem was temporary radio interference, or the vehicle may have been outside the service area.

B  **END****A****5. REPLACE DCM (TELEMATICS TRANSCEIVER)**(a) Replace the DCM (Telematics Transceiver) .**NOTICE:**

- The power switch must be off.

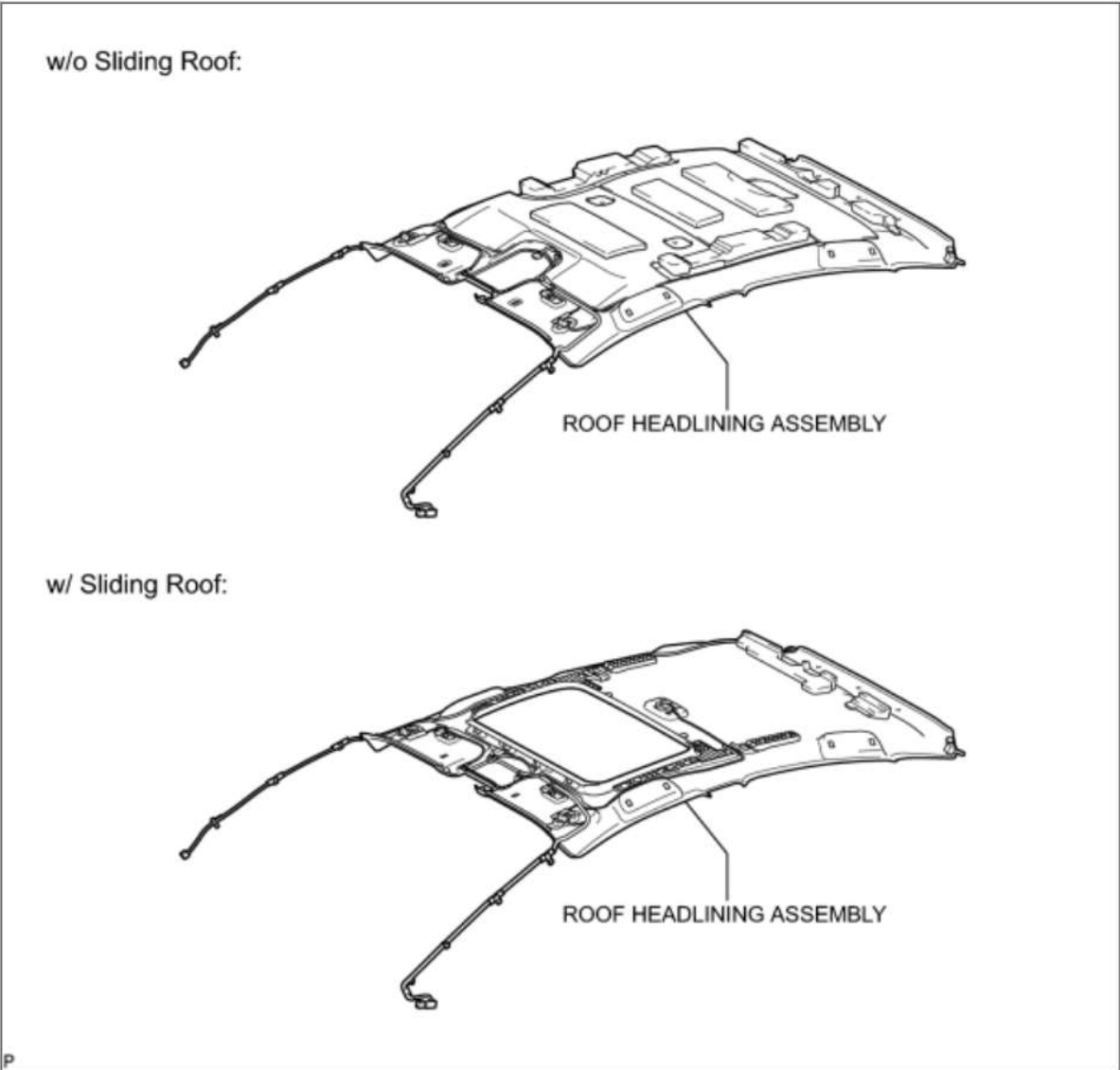
CELLULAR COMMUNICATION: SAFETY CONNECT SYSTEM: UNABLE TO CONNECT TO CALL CENTER (2010 Prius)

- Do not swap the DCM (Telematics Transceiver) with one from another vehicle.

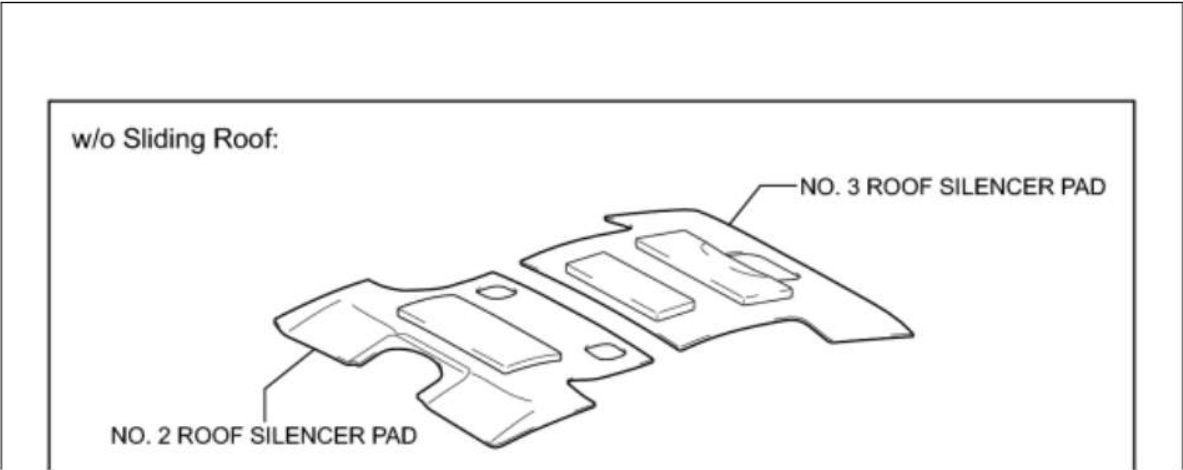
NEXT ► **PERFORM DCM ACTIVATION**

COMPONENTS

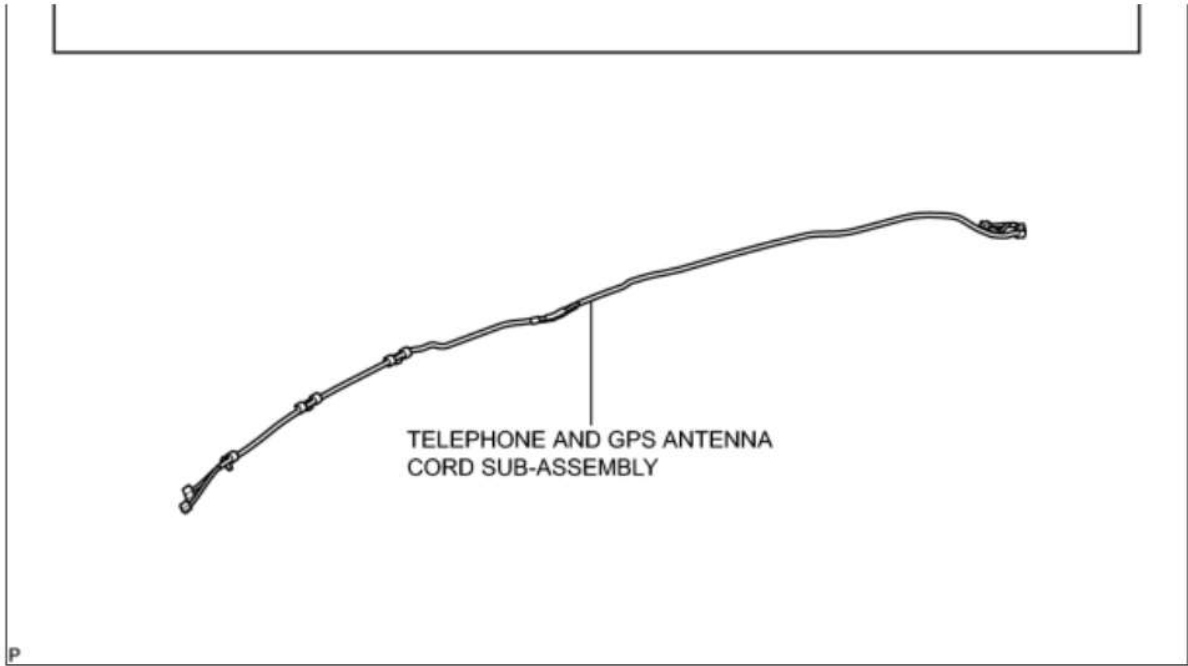
ILLUSTRATION



ILLUSTRATION



CELLULAR COMMUNICATION: TELEPHONE AND GPS ANTENNA CORDS: COMPONENTS (2010 Prius)



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CELLULAR COMMUNICATION: TELEPHONE AND GPS ANTENNA CORDS: REMOVAL (2010 Prius)

REMOVAL**1. REMOVE ROOF HEADLINING ASSEMBLY****HINT:**

Refer to the procedure up to Remove Roof Headlining Assembly

INFO

2. REMOVE NO. 2 ROOF SILENCER PAD (w/o Sliding Roof)

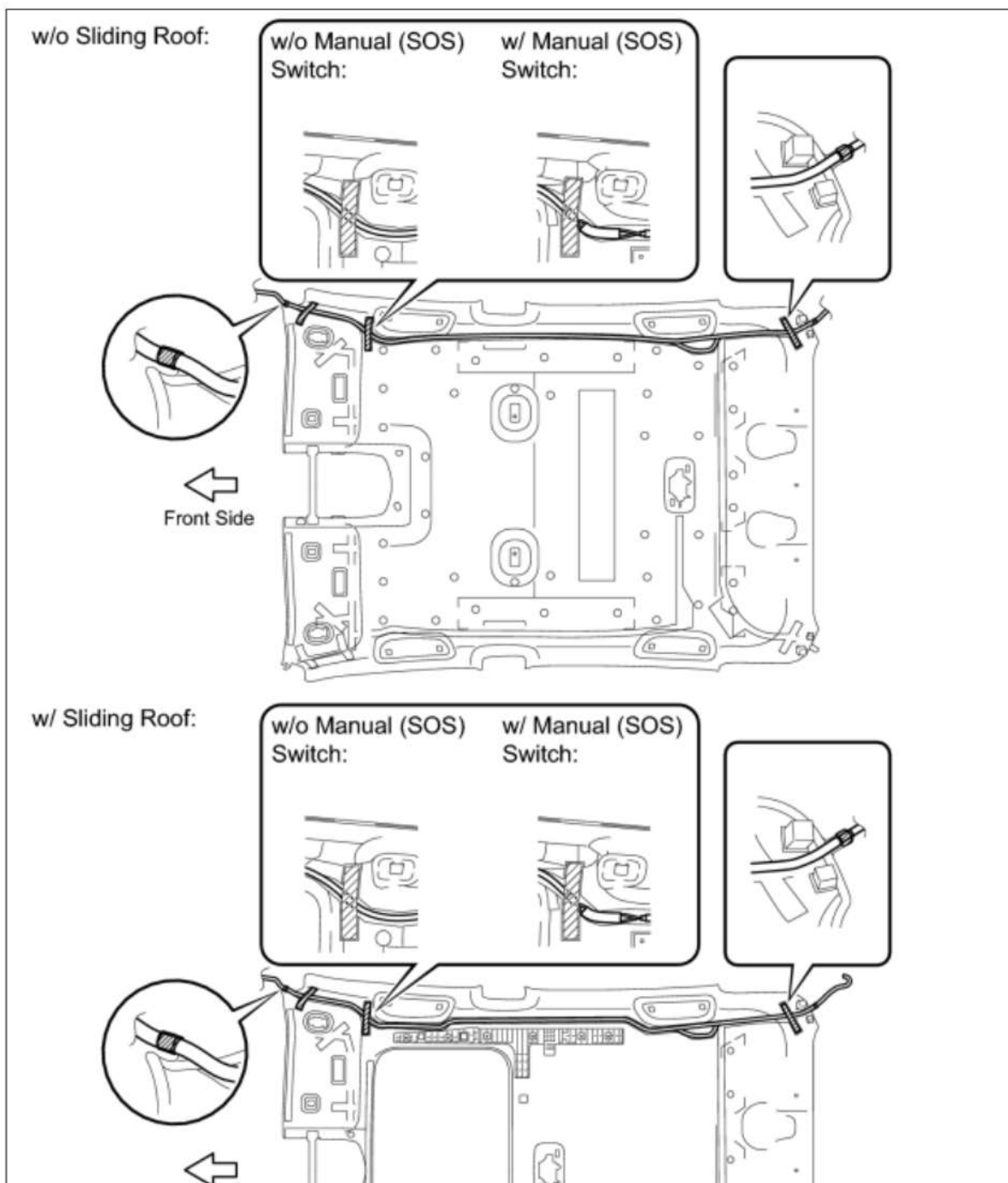
INFO

3. REMOVE NO. 3 ROOF SILENCER PAD (w/o Sliding Roof)

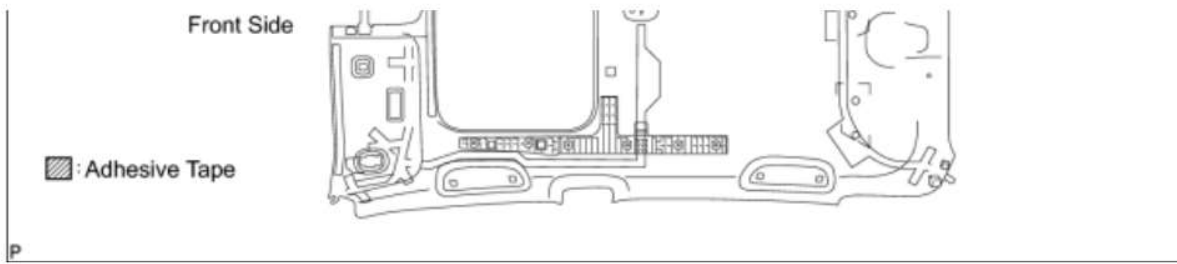
INFO

4. REMOVE TELEPHONE AND GPS ANTENNA CORD SUB-ASSEMBLY

- (a) Peel the strips of the tape used to secure the antenna cord only to the extent that allows removal of the antenna cord.



CELLULAR COMMUNICATION: TELEPHONE AND GPS ANTENNA CORDS: REMOVAL (2010 Prius)



(b) Remove the telephone and GPS antenna cord sub-assembly.

CELLULAR COMMUNICATION: TELEPHONE AND GPS ANTENNA CORDS: INSTALLATION (2010 Prius)

INSTALLATION

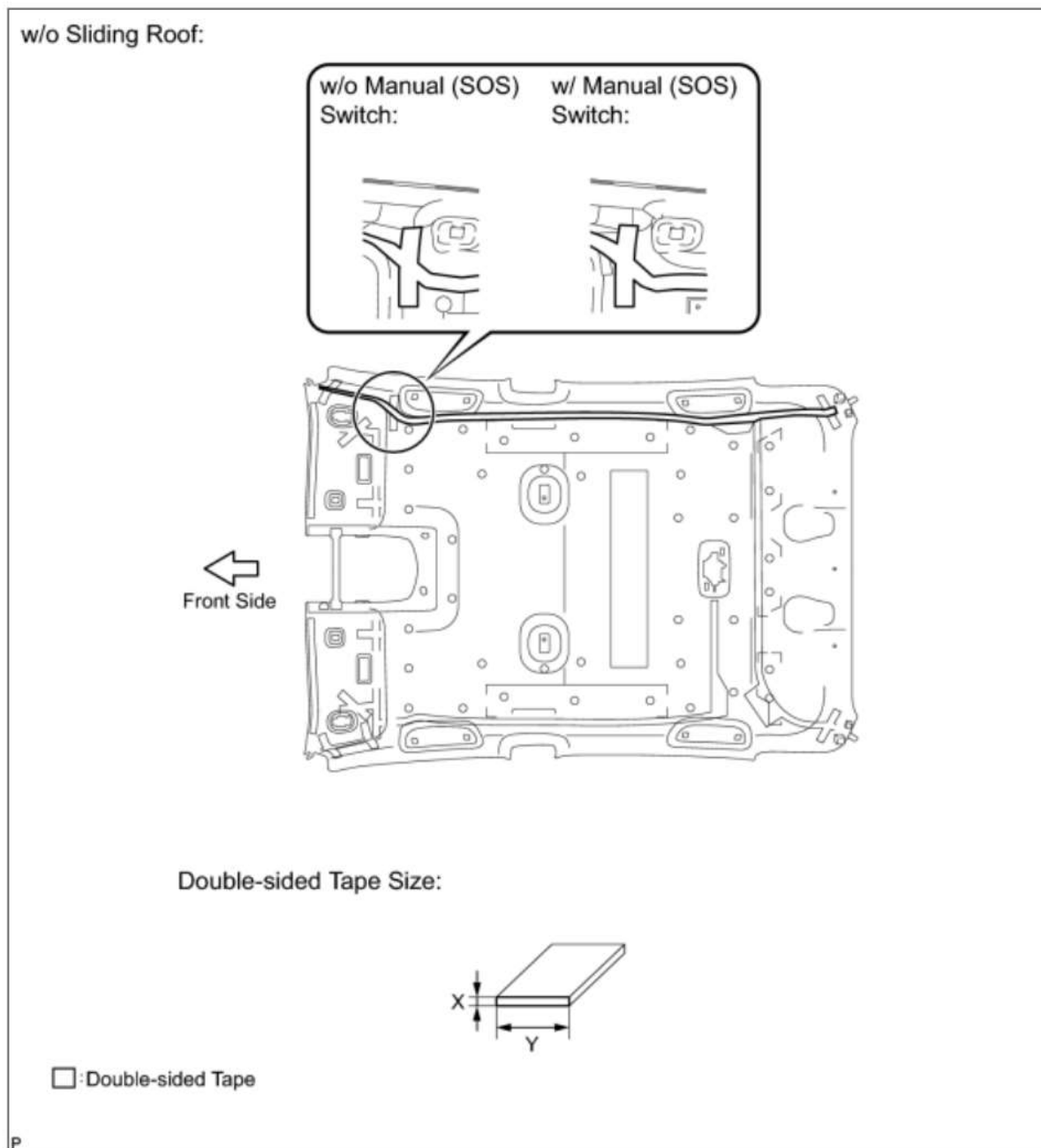
1. INSTALL TELEPHONE AND GPS ANTENNA CORD SUB-ASSEMBLY

HINT:

Double-sided tape and tape are not available as supply parts. If the tape still has enough adhesion to secure the roof headlining and antenna cord, reuse it. If the roof headlining has been replaced with a new one, or if the tape and/or the double-sided tape is no longer sticky, apply new tape following the procedure below.

If the double-sided tape cannot be reused:

- (a) Peel off the release paper from one side of new double-sided tape and apply the new double-sided tape to the position indicated in the illustration. Be careful not to touch the adhesive surface.



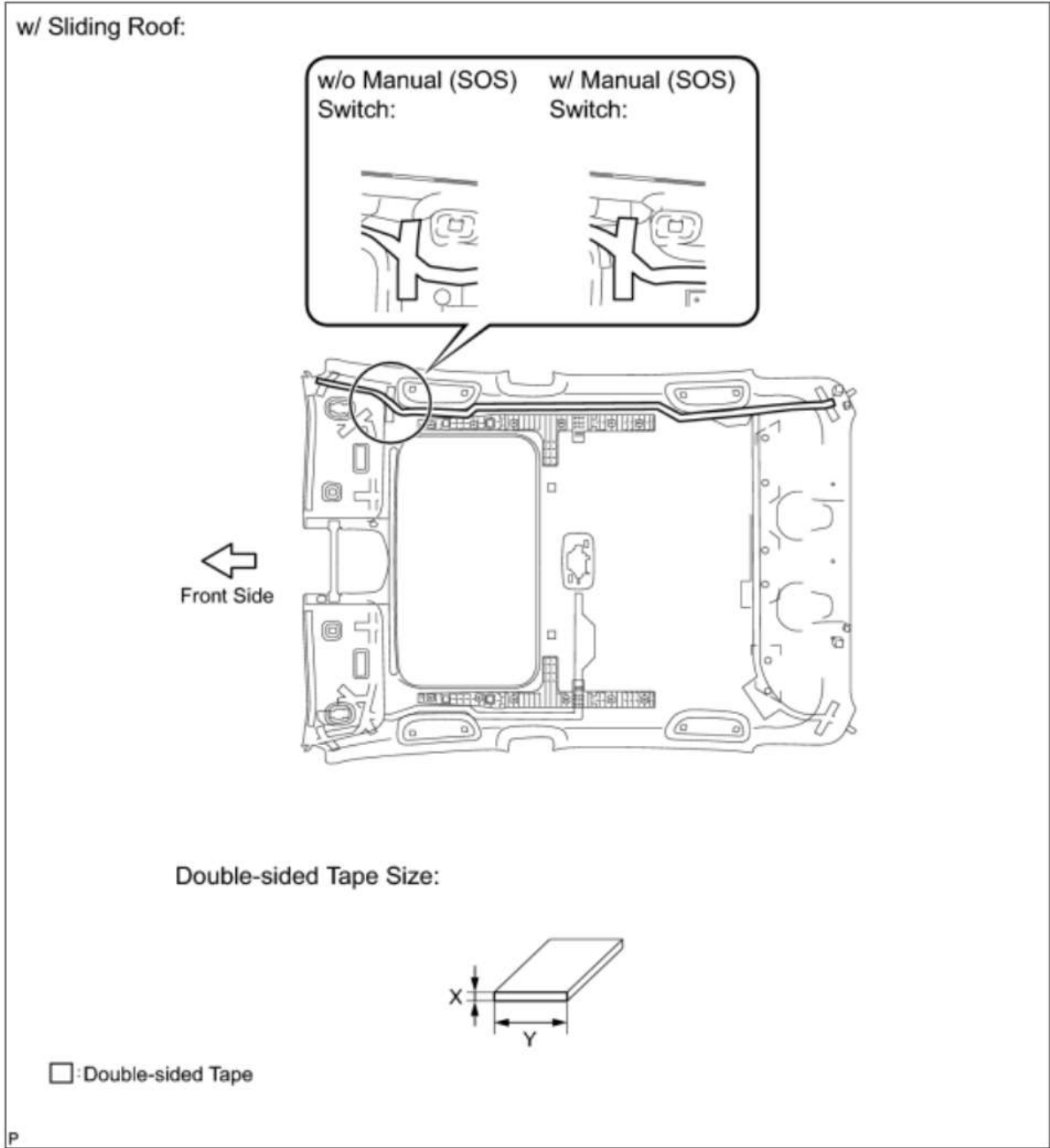
AREA	DIMENSION
X	1.0 mm (0.0394 in.)

CELLULAR COMMUNICATION: TELEPHONE AND GPS ANTENNA CORDS: INSTALLATION (2010 Prius)

Y	10.0 mm (0.394 in.)
---	---------------------

NOTICE:

Be sure to apply the double-sided tape carefully so that the tape will not be misaligned or come off.



AREA	DIMENSION
X	1.0 mm (0.0394 in.)
Y	10.0 mm (0.394 in.)

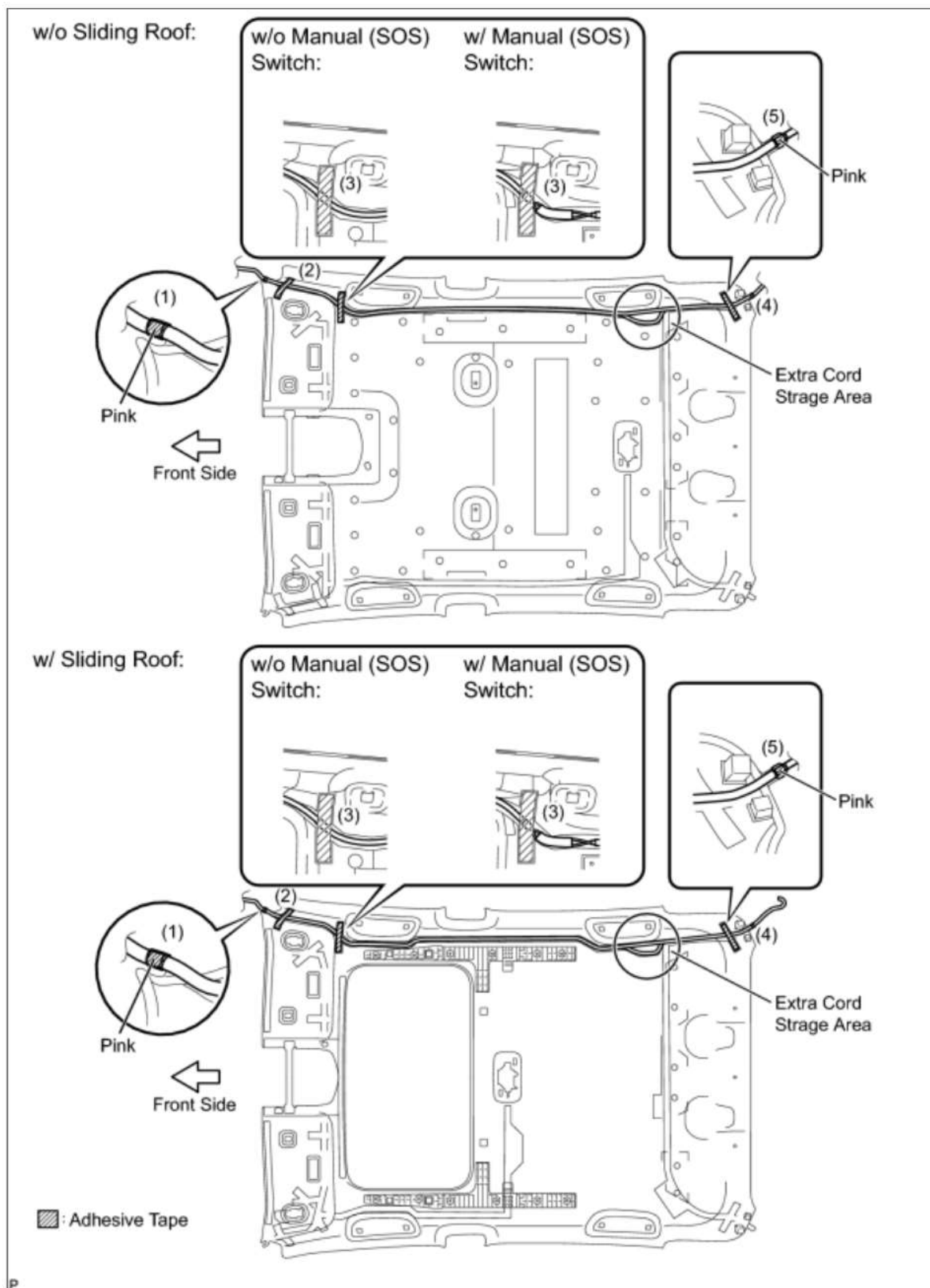
NOTICE:

Be sure to apply the double-sided tape carefully so that the tape will not be misaligned or come off.

- (b) Peel off the release paper from the double-sided tape. Be careful not to touch the adhesive surface.
- (c) Align the vehicle front side marking (pink) on the telephone and GPS antenna cord sub-assembly with the vehicle

CELLULAR COMMUNICATION: TELEPHONE AND GPS ANTENNA CORDS: INSTALLATION (2010 Prius)

front side tab on the roof headlining, and wrap the tape over the antenna cord to install it. (1)

**HINT:**

If the tape cannot be reused, packing tape can be used as a substitute.

- (d) Temporarily install the front side of the telephone and GPS antenna cord sub-assembly (2) with the adhesive tape.

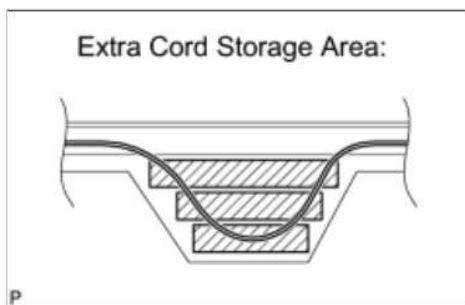
CELLULAR COMMUNICATION: TELEPHONE AND GPS ANTENNA CORDS: INSTALLATION (2010 Prius)

- (e) Temporarily install the front side of the telephone and GPS antenna cord sub-assembly (3) with the adhesive tape.
- (f) Temporarily install the telephone and GPS antenna cord sub-assembly by placing it on the double-sided tape from the front of the vehicle to the point just before the extra cord storage area.
- (g) Align the vehicle rear marking (pink) on the telephone and GPS antenna cord sub-assembly with the tape attachment location (scribe line) of the roof headlining, and wrap the tape over the antenna cord to install it. (4)

HINT:

If the tape cannot be reused, packing tape can be used as a substitute.

- (h) Temporarily install the rear side of the telephone and GPS antenna cord sub-assembly (5) with the adhesive tape.
- (i) Temporarily install the telephone and GPS antenna cord sub-assembly by placing it on the double-sided tape from the rear of the vehicle to the point just before the extra cord storage area.



- (j) Using double-sided tape, place any excess telephone and GPS antenna cord sub-assembly in the extra cord storage area to finish installing the antenna cord.

HINT:

Attach 3 pieces of double-sided tape to the extra cord storage area as shown in the illustration.

2. INSTALL NO. 3 ROOF SILENCER PAD (w/o Sliding Roof) INFO

3. INSTALL NO. 2 ROOF SILENCER PAD (w/o Sliding Roof) INFO

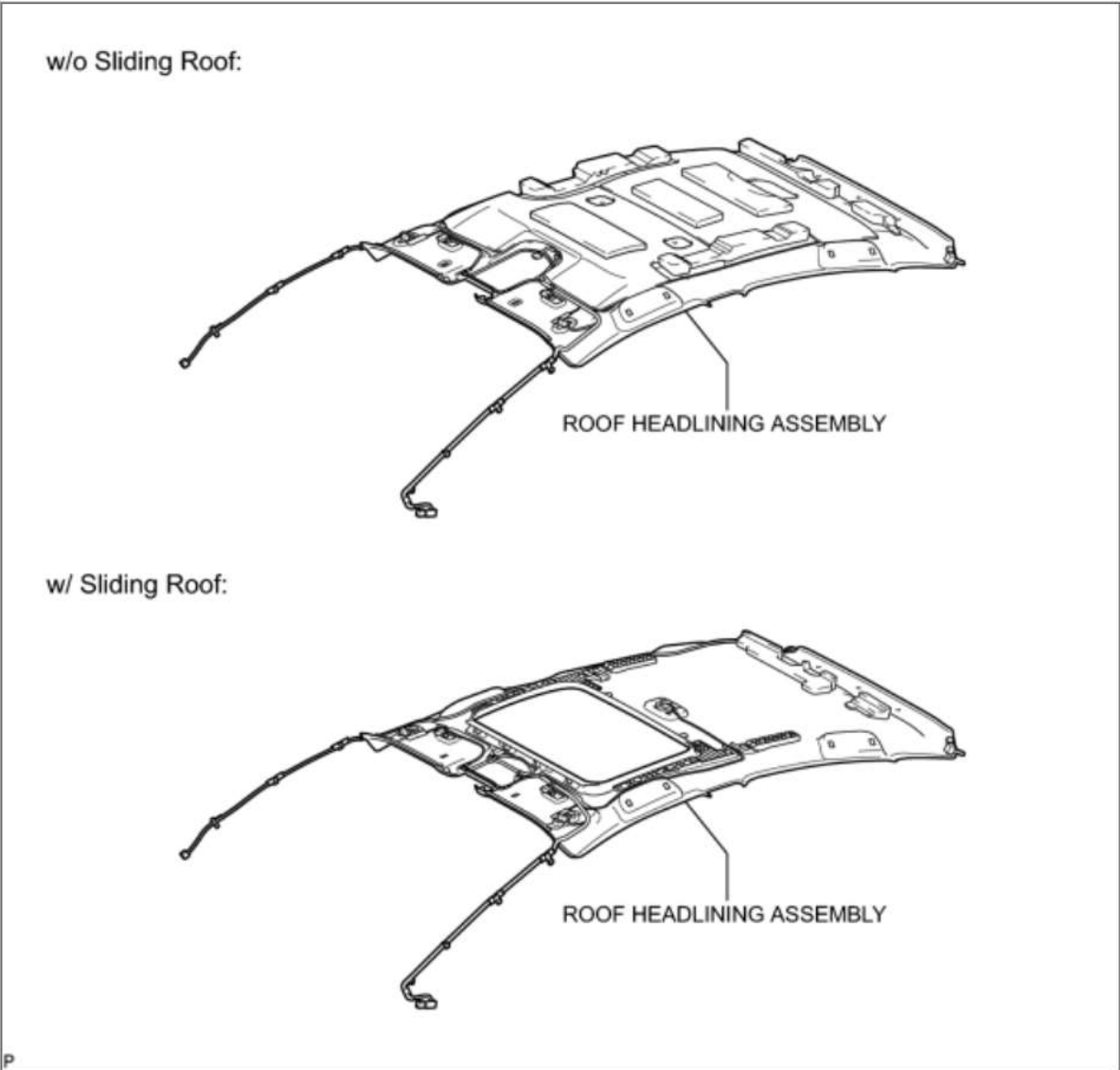
4. INSTALL ROOF HEADLINING ASSEMBLY

HINT:

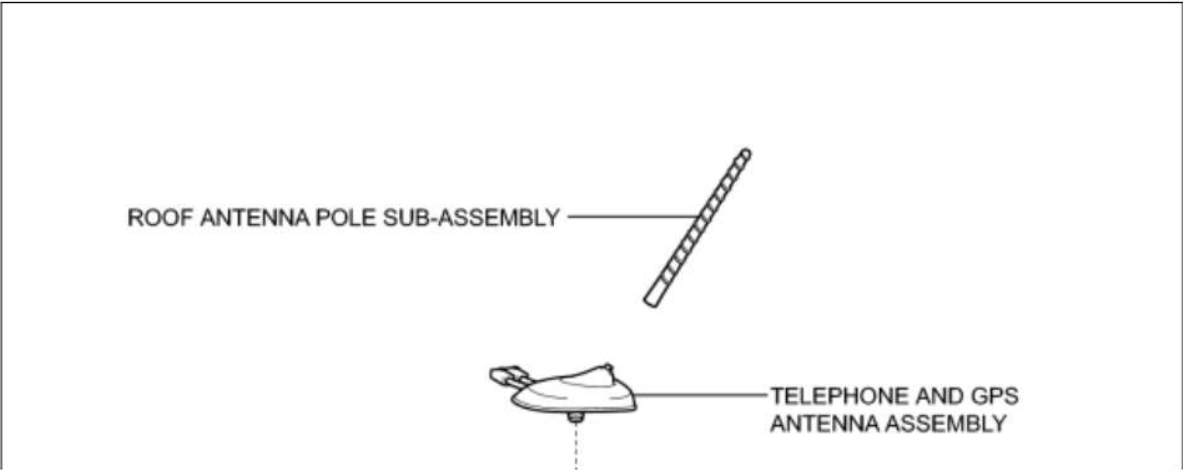
Refer to the procedure from Install Roof Headlining Assembly INFO.

COMPONENTS

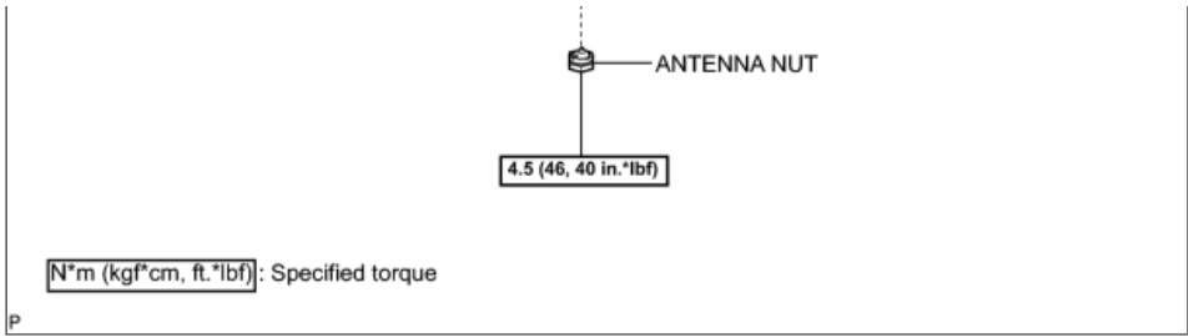
ILLUSTRATION



ILLUSTRATION



CELLULAR COMMUNICATION: TELEPHONE AND GPS ANTENNA: COMPONENTS (2010 Prius)



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REMOVAL

1. REMOVE ROOF HEADLINING ASSEMBLY

HINT:

Refer to the procedure up to Remove Roof Headlining Assembly

INFO

2. REMOVE ROOF ANTENNA POLE SUB-ASSEMBLY

INFO

3. REMOVE TELEPHONE AND GPS ANTENNA ASSEMBLY



(a) Disconnect the 2 connectors.

(b) Remove the antenna nut and telephone and GPS antenna assembly.

INSTALLATION

1. INSTALL TELEPHONE AND GPS ANTENNA ASSEMBLY



(a) Install the telephone and GPS antenna assembly with the antenna nut.

Torque: 4.5 N·m (46 kgf·cm, 40in·lbf)

(b) Connect the 2 connectors.

2. INSTALL ROOF ANTENNA POLE SUB-ASSEMBLY



3. INSTALL ROOF HEADLINING ASSEMBLY

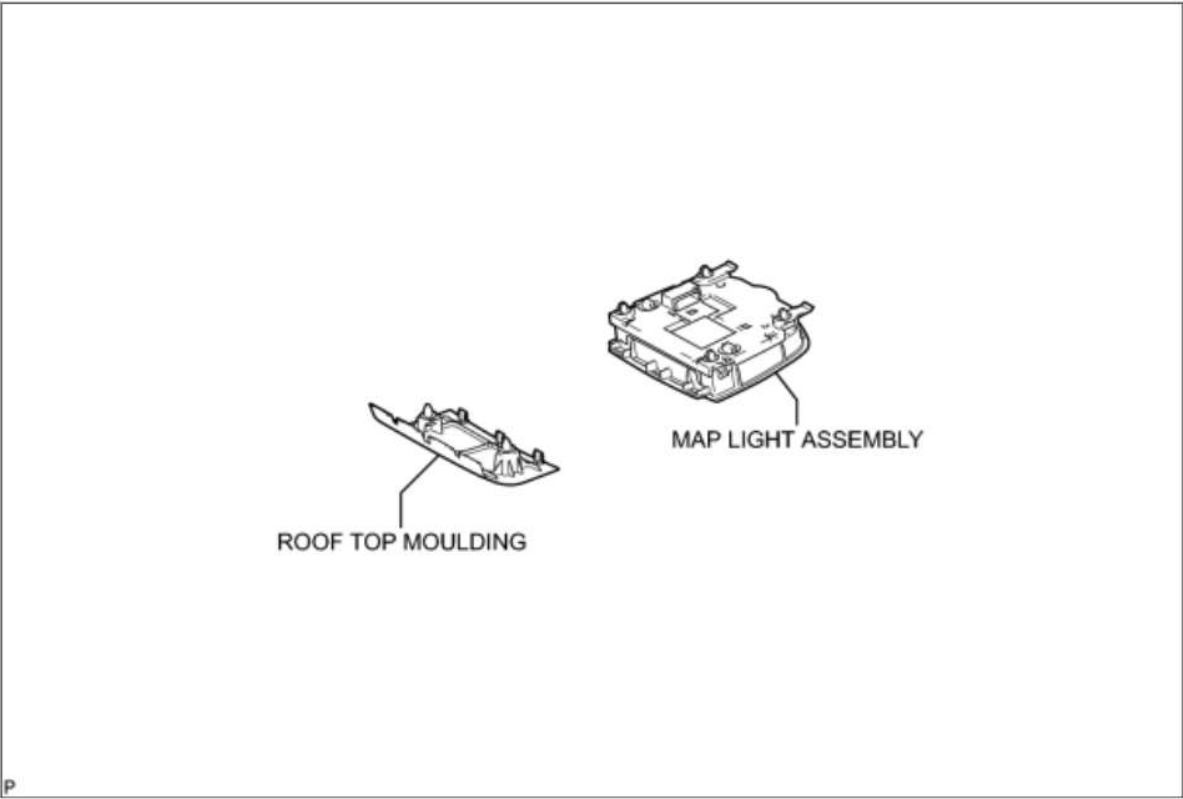
HINT:

Refer to the procedure from Install Roof Headlining Assembly

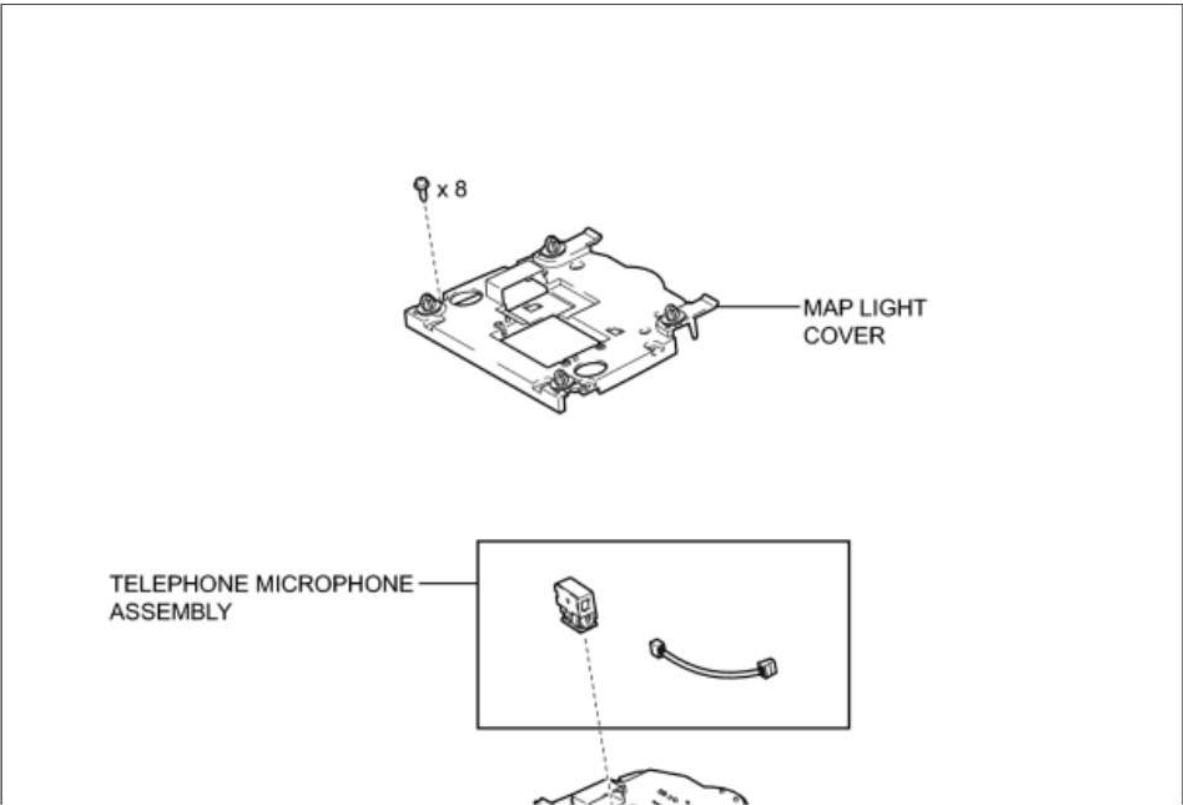


COMPONENTS

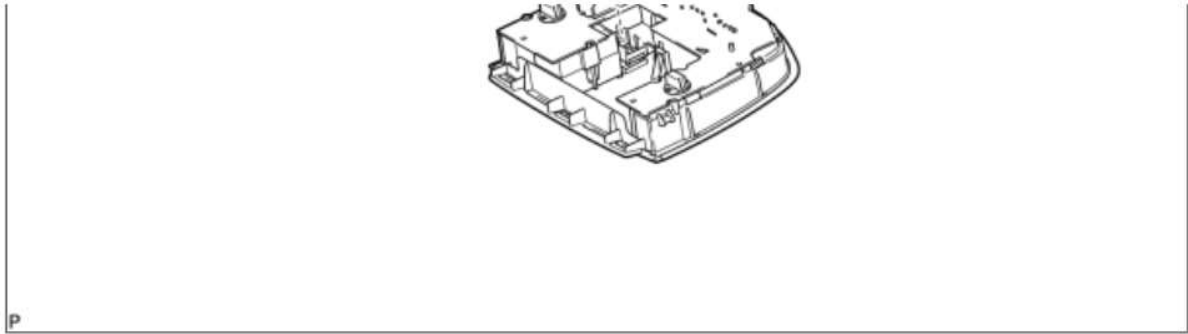
ILLUSTRATION



ILLUSTRATION



CELLULAR COMMUNICATION: TELEPHONE MICROPHONE (w/ Sliding Roof): COMPONENTS (2010 Prius)



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CELLULAR COMMUNICATION: TELEPHONE MICROPHONE (w/ Sliding Roof): REMOVAL (2010 Prius)

REMOVAL**1. REMOVE ROOF TOP MOULDING****INFO****2. REMOVE MAP LIGHT ASSEMBLY****INFO****3. REMOVE TELEPHONE MICROPHONE ASSEMBLY****INFO**

CELLULAR COMMUNICATION: TELEPHONE MICROPHONE (w/ Sliding Roof): INSTALLATION (2010 Prius)

INSTALLATION

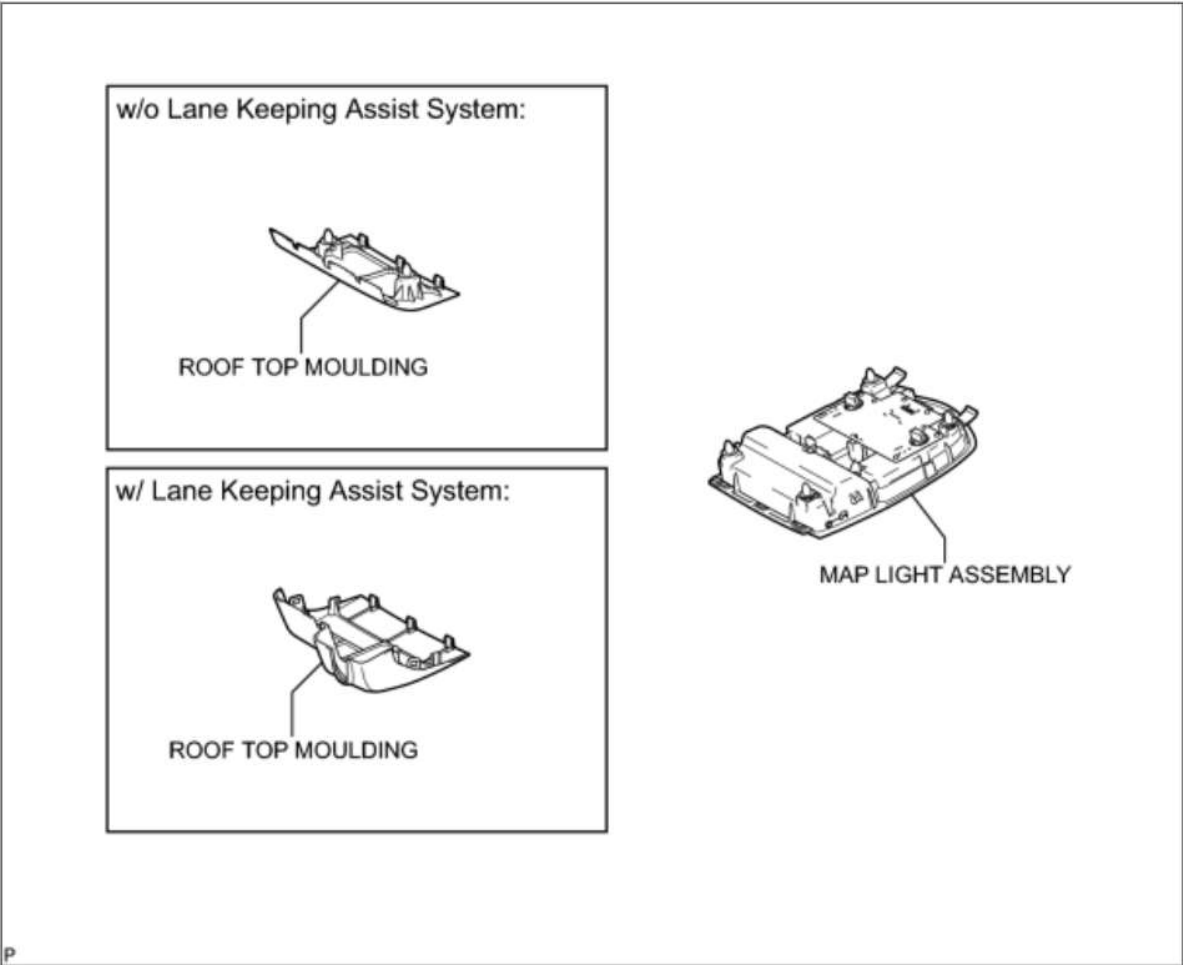
1. INSTALL TELEPHONE MICROPHONE ASSEMBLY [INFO](#)

2. INSTALL MAP LIGHT ASSEMBLY [INFO](#)

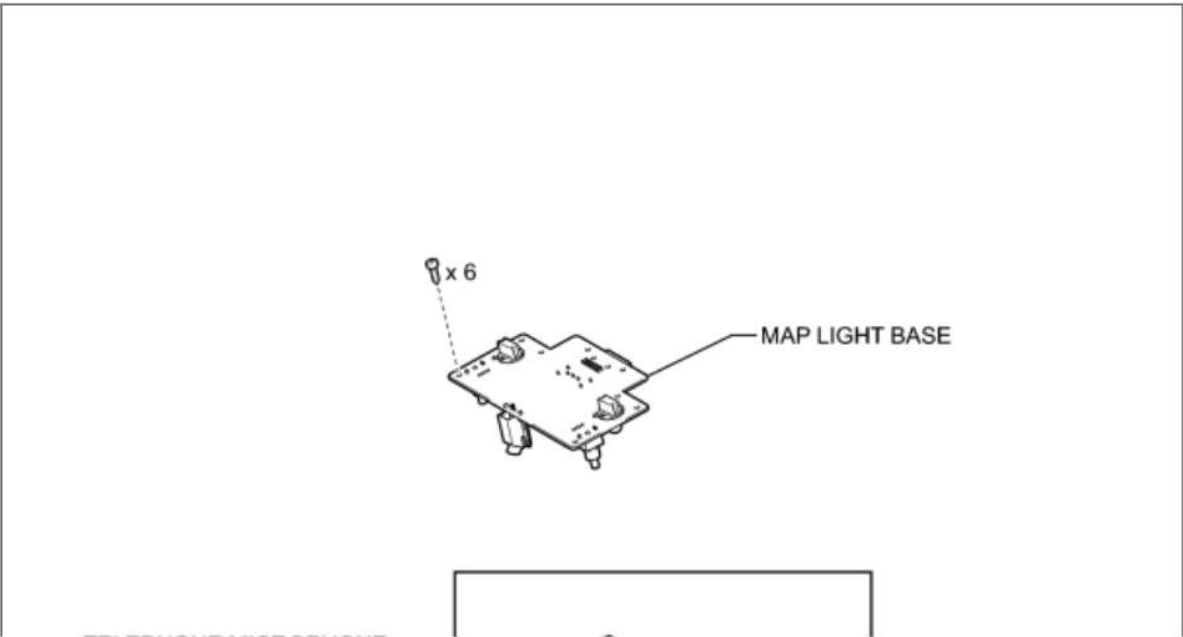
3. INSTALL ROOF TOP MOULDING [INFO](#)

COMPONENTS

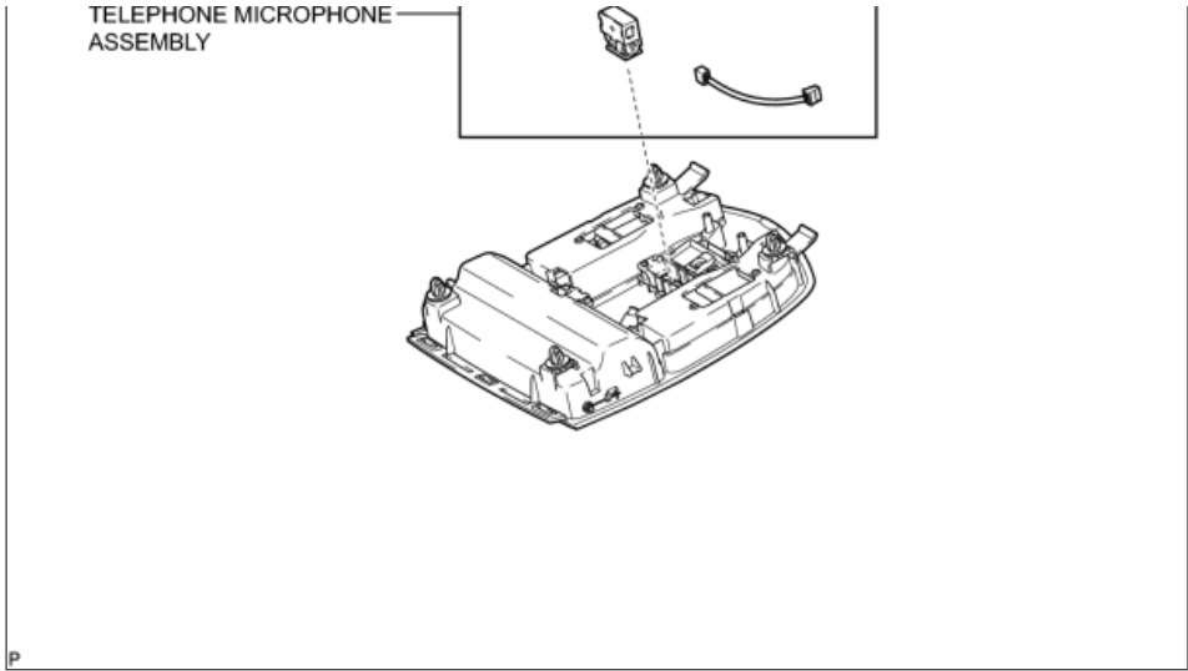
ILLUSTRATION



ILLUSTRATION



CELLULAR COMMUNICATION: TELEPHONE MICROPHONE (w/o Sliding Roof): COMPONENTS (2010 Prius)



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CELLULAR COMMUNICATION: TELEPHONE MICROPHONE (w/o Sliding Roof): REMOVAL (2010 Prius)

REMOVAL

- 1. REMOVE ROOF TOP MOULDING (w/o Lane Keeping Assist System)** 
- 2. REMOVE ROOF TOP MOULDING (w/ Lane Keeping Assist System)** 
- 3. REMOVE MAP LIGHT ASSEMBLY** 
- 4. REMOVE TELEPHONE MICROPHONE ASSEMBLY** 



CELLULAR COMMUNICATION: TELEPHONE MICROPHONE (w/o Sliding Roof): INSTALLATION (2010 Prius)

INSTALLATION

1. INSTALL TELEPHONE MICROPHONE ASSEMBLY

[INFO](#)

2. INSTALL MAP LIGHT ASSEMBLY

[INFO](#)

3. INSTALL ROOF TOP MOULDING (w/o Lane Keeping Assist System)

[INFO](#)

4. INSTALL ROOF TOP MOULDING (w/ Lane Keeping Assist System)

[INFO](#)