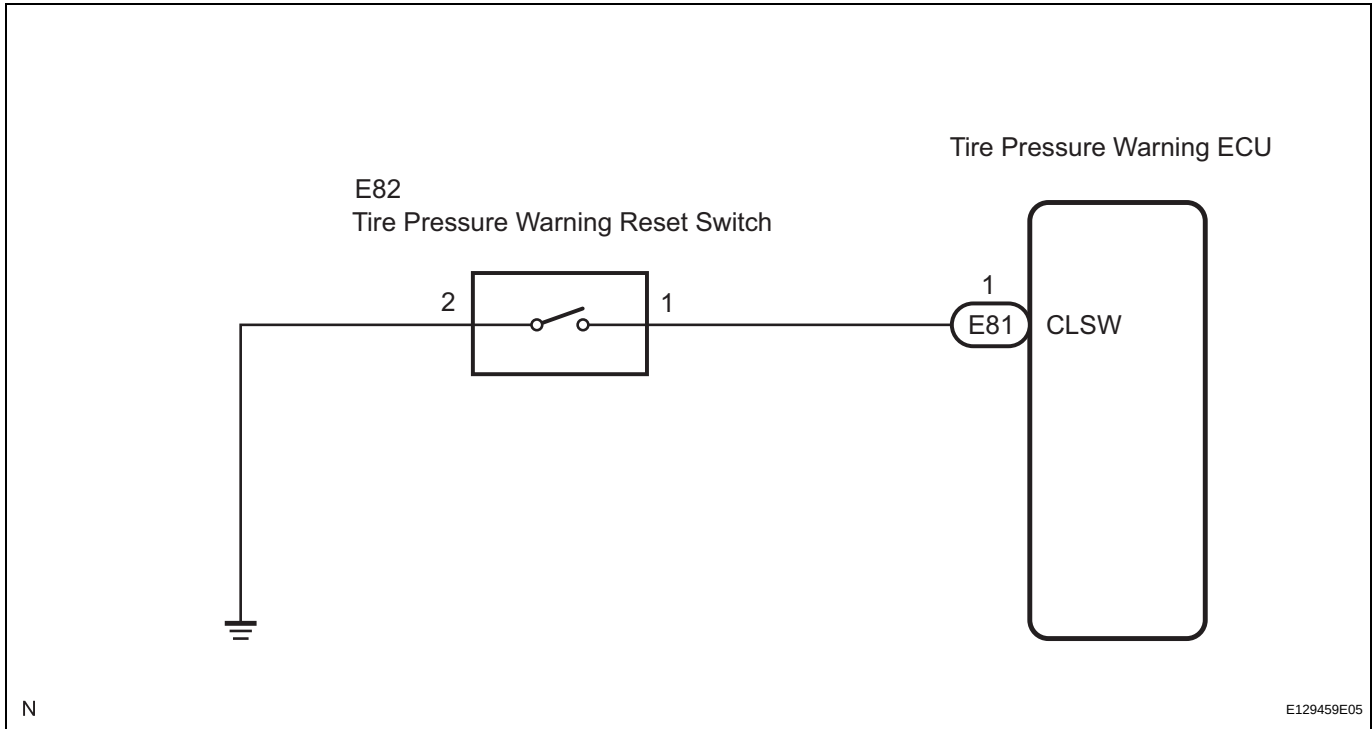


Tire Pressure Warning Reset Switch Circuit

DESCRIPTION

Receiving a signal from the tire pressure warning reset switch, the tire pressure warning ECU and receiver indicates the initialization of the tire pressure warning system.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

- When replacing the tire pressure warning ECU, read the IDs stored in the old ECU using the intelligent tester and write them down before removal.
- It is necessary to perform initialization (See page [TW-18](#)) after registration (See page [TW-15](#)) of the transmitter IDs into the tire pressure warning ECU after the ECU and/or valve and transmitter has been replaced.

TW

1

CHECK TIRE PRESSURE WARNING RESET SWITCH FUNCTION

- (a) Perform the tire pressure warning reset switch test in TEST MODE PROCEDURE (See page [TW-20](#)).

OK:

Reset switch ON:

Tire pressure warning light comes on.

Reset switch OFF:

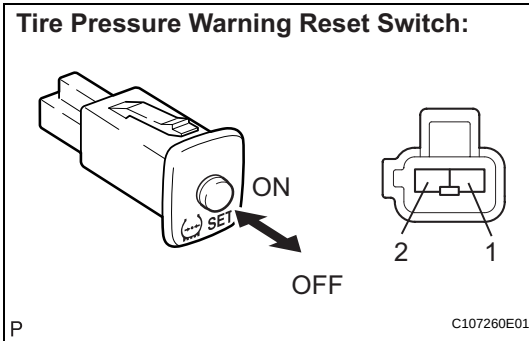
Tire pressure warning light blinks.

NG

Go to step 2

OK

END

2 INSPECT TIRE PRESSURE WARNING RESET SWITCH**Tire Pressure Warning Reset Switch:**

- Disconnect the tire pressure warning reset switch connector.
- Measure the resistance between terminals 1 and 2 of the tire pressure warning reset switch when the tire pressure warning switch is ON and OFF.

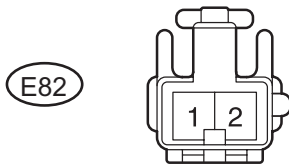
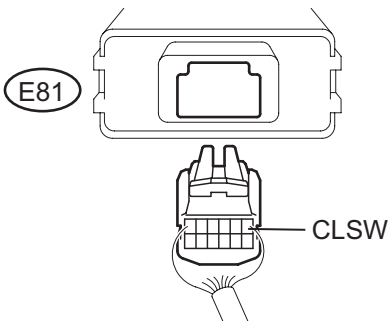
Standard resistance

Switch Condition	Specified Condition
ON	Below 1 Ω
OFF	10 k Ω or higher

NG

REPLACE TIRE PRESSURE WARNING RESET SWITCH (See page [TW-87](#))

OK

3 CHECK HARNESS AND CONNECTOR (RESET SWITCH - ECU)**Tire Pressure Warning Reset Switch:
(harness side connector)****Tire Pressure Warning ECU:**

- Disconnect the tire pressure warning reset switch E82 connector and tire pressure warning ECU E81 connector.
- Measure the resistance according to the value(s) in the table below.

Standard resistance

Switch Condition	Specified Condition
E81-1 (CLSW) - E82-1	Below 1 Ω
E81-1 (CLSW) - Body ground	10 k Ω or higher
E82-2 - Body ground	Below 1 Ω

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

TW

A button with a black border and a downward-pointing arrow shape at the bottom, containing the text "OK".

OK

REPLACE TIRE PRESSURE WARNING ECU (See page [TW-85](#))

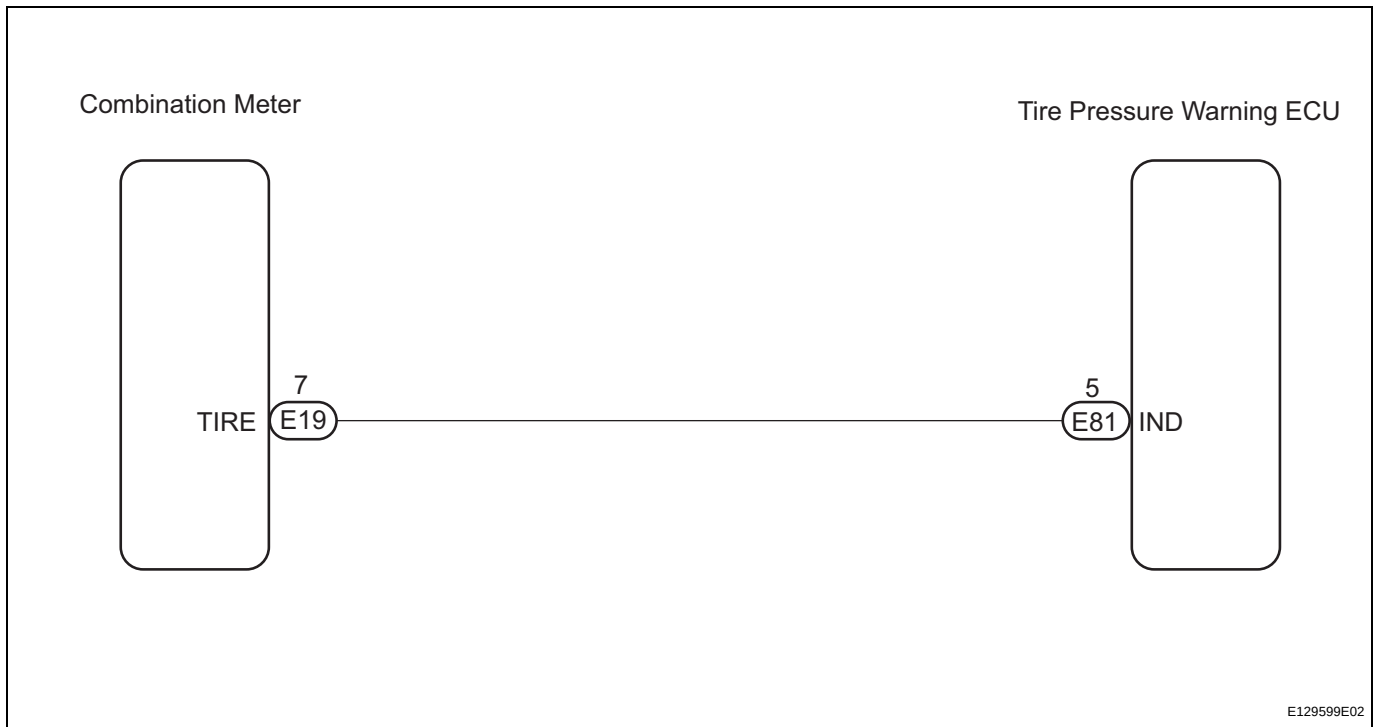
Tire Pressure Warning Light Circuit

DESCRIPTION

If the ECU detects trouble, the tire pressure warning light blinks (comes on after blinking for 1 minute) and tire pressure warning system operation is cancelled at the same time. At this time, the ECU records a DTC in the memory.

Connect terminals TC and CG of DLC3 to make the tire pressure warning light blink and output the DTC.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

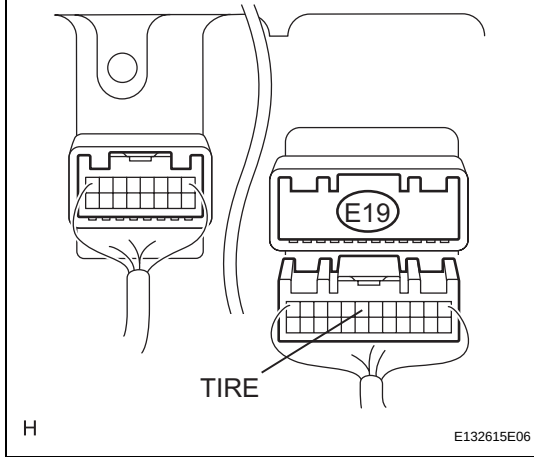
- When replacing the tire pressure warning ECU, read the IDs stored in the old ECU using the intelligent tester and write them down before removal.
- It is necessary to perform initialization (See page [TW-18](#)) after registration (See page [TW-15](#)) of the transmitter IDs into the tire pressure warning ECU after the ECU and/or valve and transmitter has been replaced.

HINT:

This procedure must be performed according to the PROBLEM SYMPTOMS TABLE.

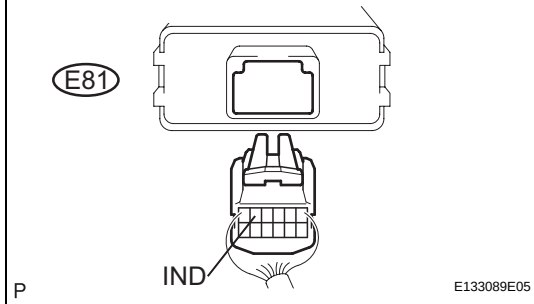
1 CHECK HARNESS AND CONNECTOR (COMBINATION METER - TIRE PRESSURE WARNING ECU)

Combination Meter Wire Harness View:



(a) Disconnect the E19 combination meter connector.

Tire Pressure Warning ECU



(b) Disconnect the E81 tire pressure warning ECU connector.

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

Standard resistance

Tester Connection	Specified Condition
E19-7 (TIRE) - E81-5 (IND)	Below 1 Ω
E19-7 (TIRE) - Body ground	10 k Ω or higher

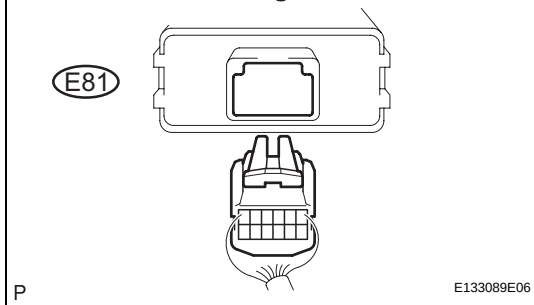
NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

2 INSPECT COMBINATION METER

Tire Pressure Warning ECU



(a) Disconnect the connector from the tire pressure warning ECU.

(b) Turn the engine switch on (IG), and check the condition of the tire pressure warning light illumination.

Result

Condition	Proceed to
Illuminates	A
Does not illuminate	B

B

REPLACE COMBINATION METER

A

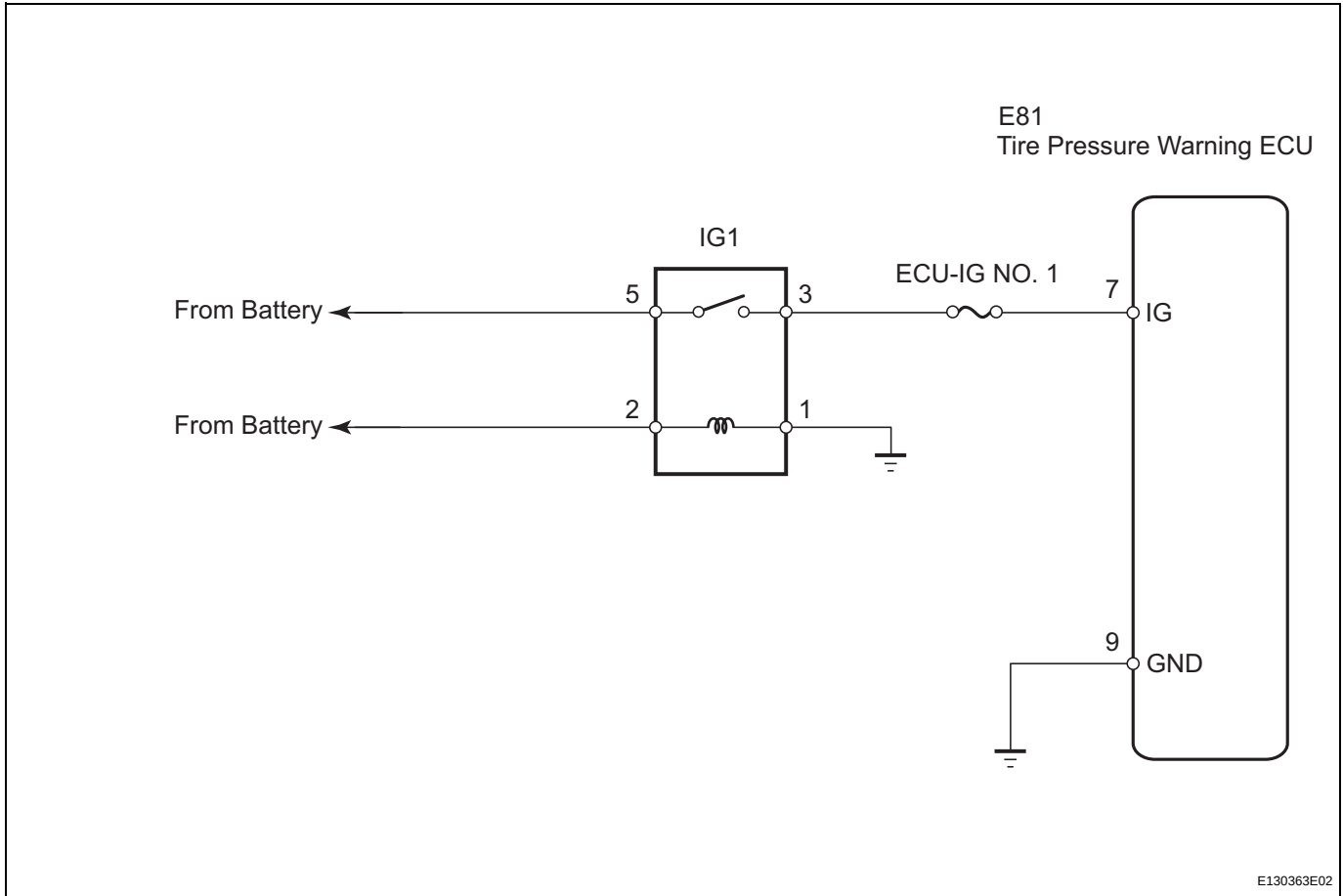
REPLACE TIRE PRESSURE WARNING ECU (See page TW-85)

ECU Power Source Circuit

DESCRIPTION

This is the power source for the tire pressure warning ECU.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

- When replacing the tire pressure warning ECU, read the IDs stored in the old ECU using the intelligent tester and write them down before removal.
- It is necessary to perform initialization (See page [TW-18](#)) after registration (See page [TW-15](#)) of the transmitter IDs into the tire pressure warning ECU after the ECU and/or valve and transmitter has been replaced.

TW

1

INSPECT FUSE (ECU-IG NO. 1)

- Remove the ECU-IG NO. 1 fuse from the instrument panel junction block.
- Measure the resistance of the fuse.

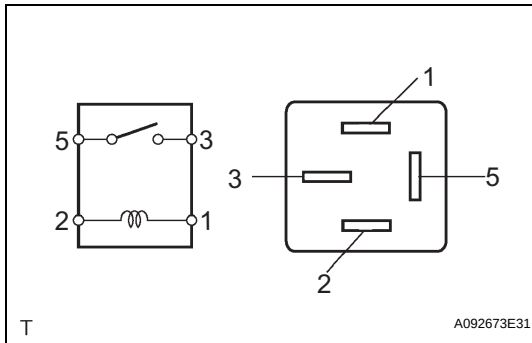
Standard resistance:

Below 1 Ω

NG

REPLACE FUSE

OK

2 INSPECT IG1 RELAY

- (a) Remove the IG1 relay from the instrument panel junction block.
 (b) Measure the resistance according to the value(s) in the table below.

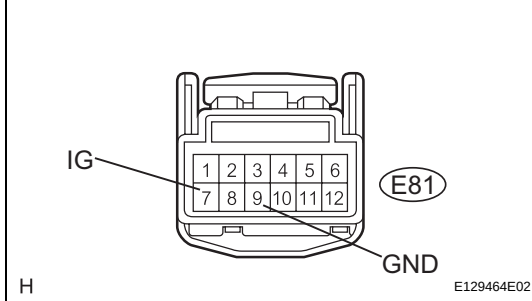
Standard resistance

Tester Connection	Specified Condition
3 - 5	10 k Ω or higher
	Below 1 Ω (When battery voltage is applied to terminals 1 and 2)

NG

REPLACE IG1 RELAY

OK

3 CHECK HARNESS AND CONNECTOR (ECU - BATTERY AND BODY GROUND)**Wire Harness Side:**

- (a) Disconnect the E81 ECU connector.
 (b) Measure the voltage according to the value(s) in the table below.

Standard voltage

Tester Connection	Switch Condition	Specified Condition
E81-7 (IG) - Body ground	Engine switch on (IG)	10 to 14 V
	Engine switch off	Below 1 V

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

Standard resistance

Tester Connection	Specified Condition
E81-9 (GND) - Body ground	Below 1 Ω

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

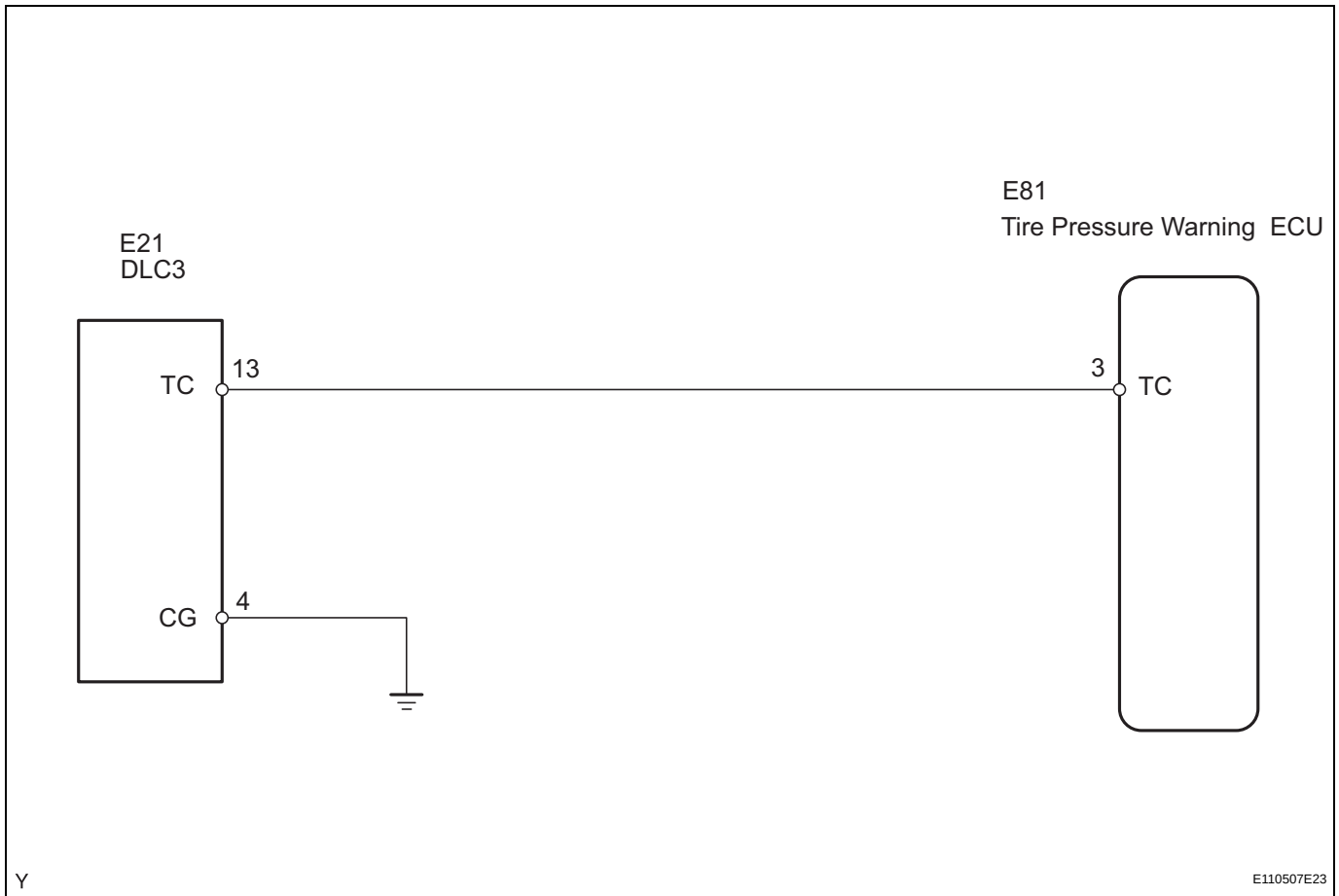
PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

TC and CG Terminal Circuit

DESCRIPTION

DTC output mode is set by connecting terminals 13 (TC) and 4 (CG) of the DLC3. The DTCs are indicated by the blinking of the tire pressure warning light.

WIRING DIAGRAM



HINT:

When each warning light blinks continuously, a ground short in the wiring of terminal TC of the DLC3 or an internal ground short in an ECU connected to this circuit may have occurred.

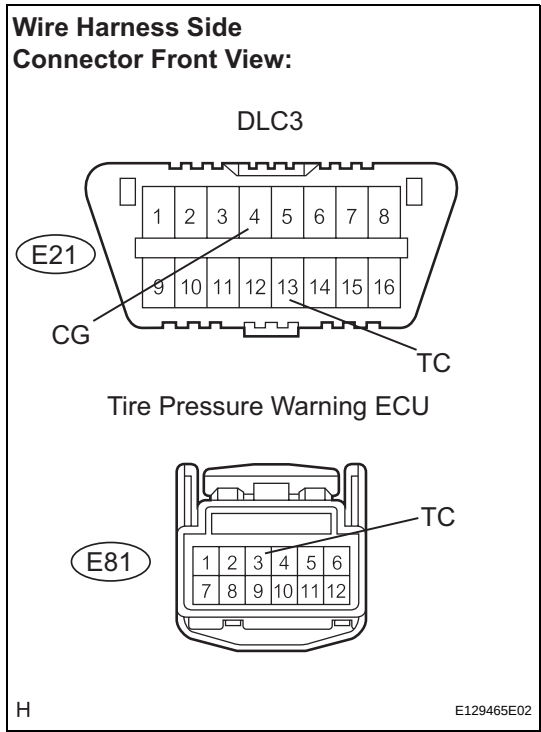
INSPECTION PROCEDURE

NOTICE:

- When replacing the tire pressure warning ECU, read the IDs stored in the old ECU using the intelligent tester and write them down before removal.
- It is necessary to perform initialization (See page [TW-18](#)) after registration (See page [TW-15](#)) of the transmitter IDs into the tire pressure warning ECU after the ECU and/or valve and transmitter has been replaced.

1

CHECK HARNESS AND CONNECTOR (DLC3 - TIRE PRESSURE WARNING ECU)



- (a) Disconnect the E81 ECU connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Specified Condition
E81-3 (TC) - E21-13 (TC)	Below 1 Ω
E21-4 (CG) - Body ground	

NG

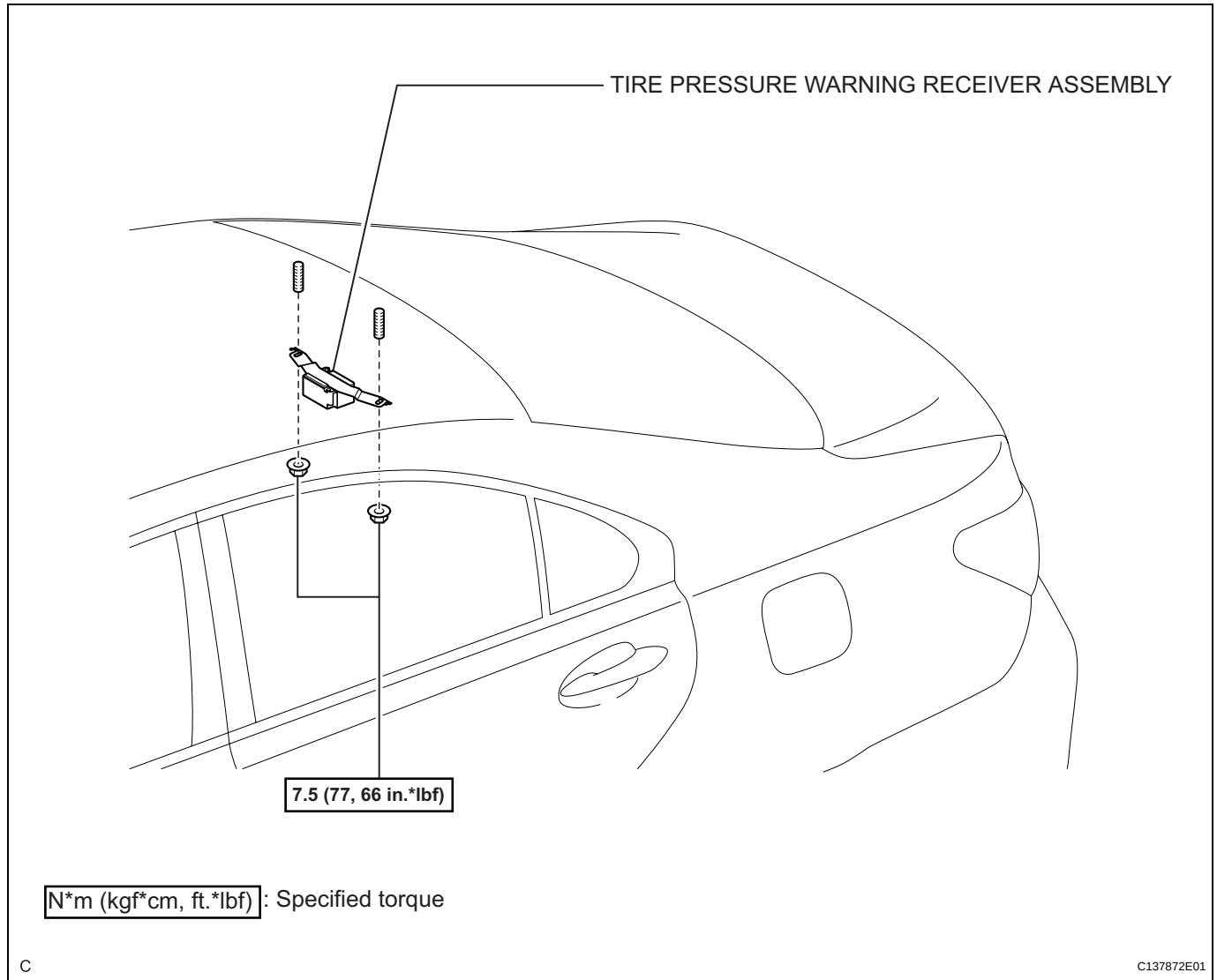
REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

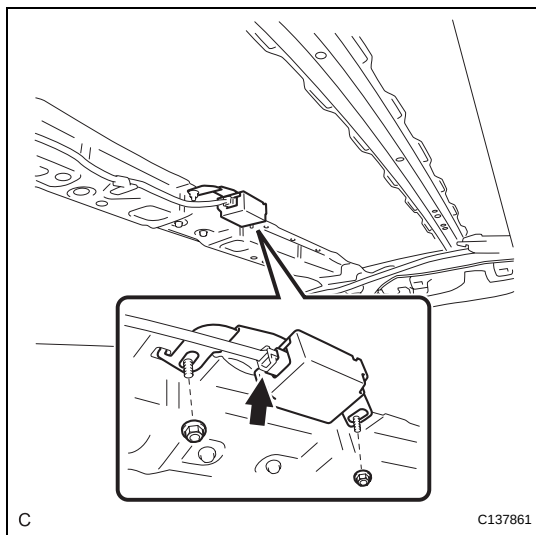
TIRE PRESSURE WARNING RECEIVER (w/ Antenna)

COMPONENTS



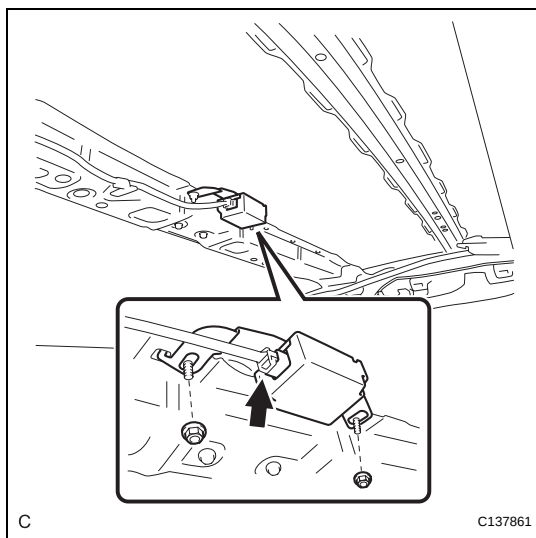
REMOVAL

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
2. **REMOVE ROOF HEADLINING ASSEMBLY**
HINT:
Refer to the instructions for REMOVAL of the ROOF HEADLINING (See page [IR-38](#)).
3. **REMOVE TIRE PRESSURE WARNING RECEIVER ASSEMBLY**
 - (a) Disconnect the connector.
 - (b) Remove the 2 nuts and the tire pressure warning receiver assembly.

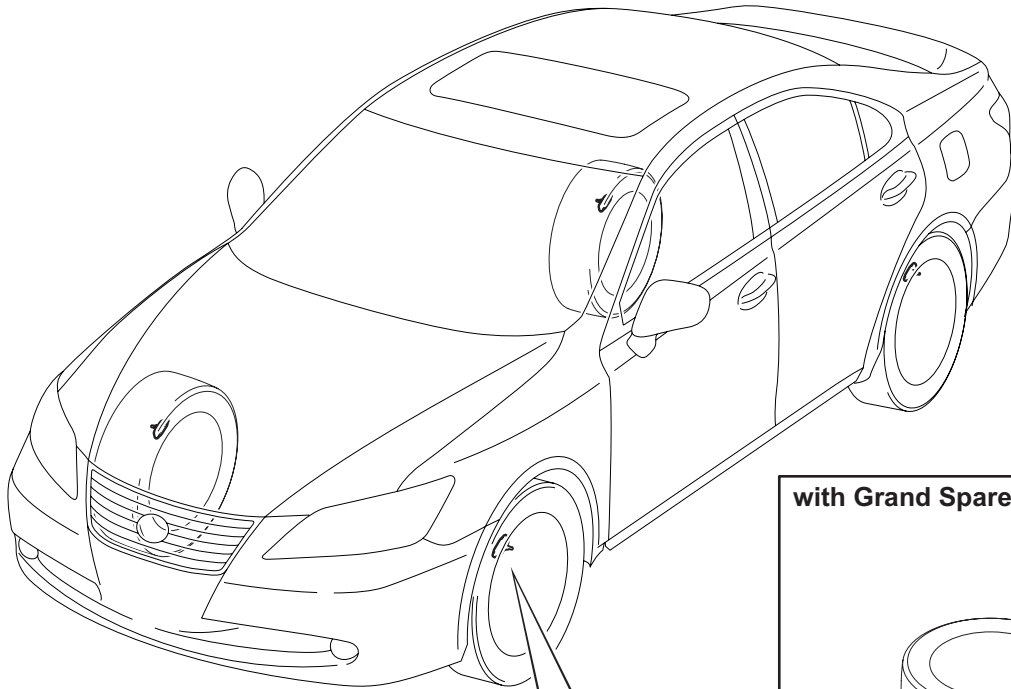


INSTALLATION

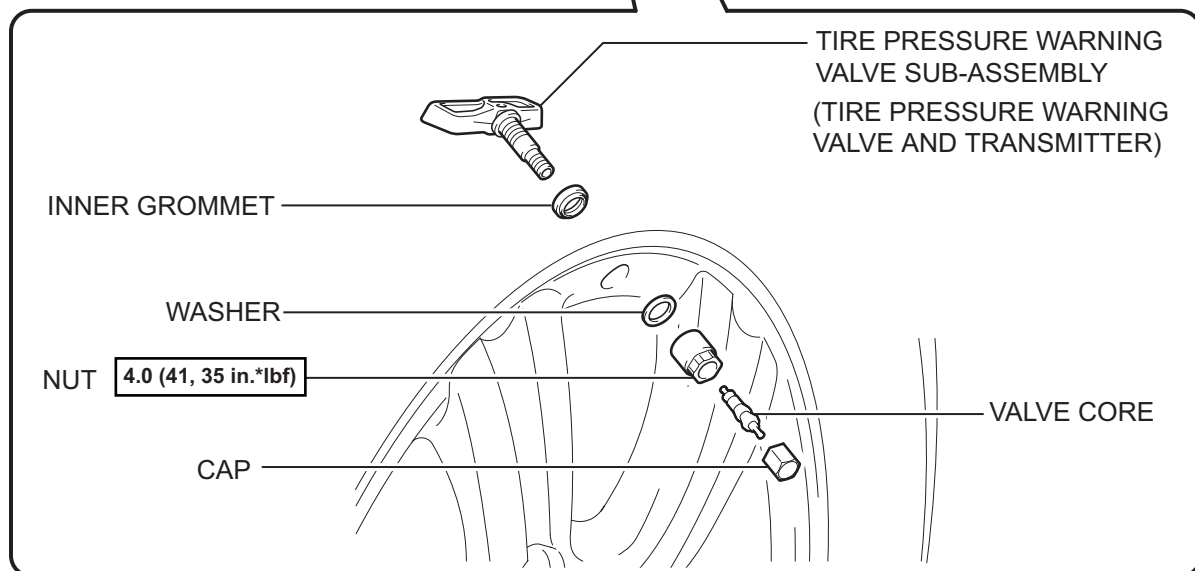
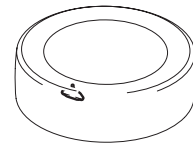
1. **INSTALL TIRE PRESSURE WARNING RECEIVER ASSEMBLY**
 - (a) Install the tire pressure warning receiver assembly with the 2 nuts.
Torque: 7.5 N*m (77 kgf*cm, 66 in.*lbf)
 - (b) Connect the connector.
2. **INSTALL ROOF HEADLINING ASSEMBLY**
HINT:
Refer to the instructions for INSTALLATION of the ROOF HEADLINING (See page [IR-52](#)).
3. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
4. **PERFORM INITIALIZATION**
NOTICE:
Some systems need initialization after reconnecting the cable to the negative battery terminal (See page [IN-33](#)).
5. **INSPECT TIRE PRESSURE WARNING SYSTEM**
HINT:
(See page [TW-20](#))



TIRE PRESSURE WARNING VALVE AND TRANSMITTER COMPONENTS



with Grand Spare Tire:



N*m (kgf*cm, ft.*lbf): Specified torque

REMOVAL

1. REMOVE FRONT WHEEL
2. REMOVE REAR WHEEL
3. REMOVE GRAND SPARE TIRE (w/ Grand Spare Tire)
4. REMOVE TIRE PRESSURE WARNING VALVE SUB-ASSEMBLY

- (a) Remove the valve core and cap, and release the air from the tire.
- (b) After ensuring that a sufficient amount of air has been released, remove the nut and washer that are used to secure the tire pressure warning valve and transmitter. Drop the tire pressure warning valve and transmitter inside the tire.

HINT:

Keep the removed cap, valve core, nut, and washer.

- (c) After dropping the tire pressure warning valve and transmitter into the tire, disengage the bead using the shoe of the tire remover.

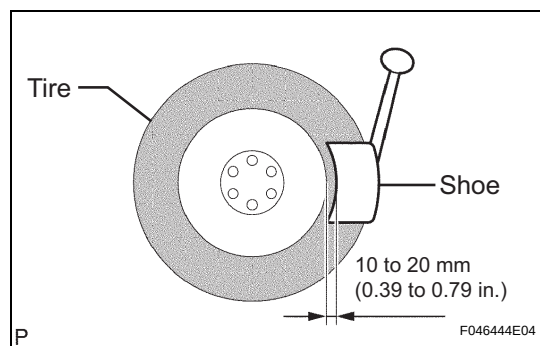
NOTICE:

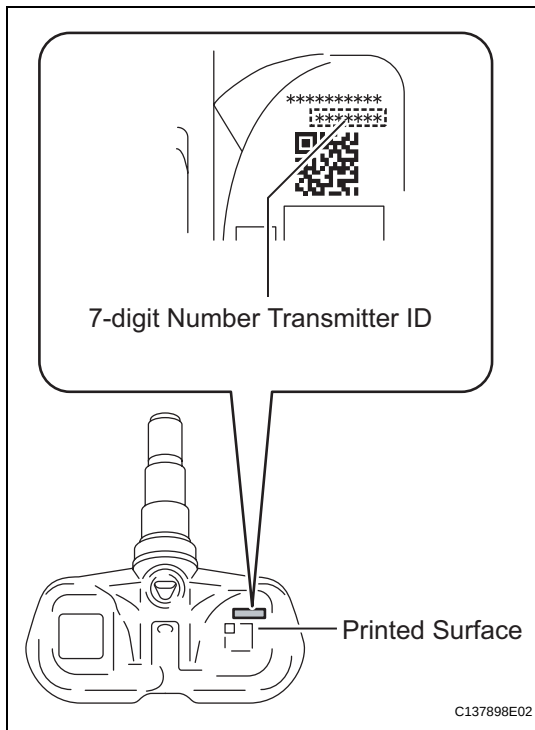
Be careful not to damage the tire pressure warning valve and transmitter due to interference between the valve and the tire bead.

- (d) Remove the bead on the upper side in the usual way.
- (e) Take out the tire pressure warning valve and transmitter from the tire and remove the bead on the lower side in the usual way.

HINT:

Check that no cracks or damage are identified on the grommet. If any damage is found, replace the grommet, washer and nut.





INSTALLATION

1. INSTALL TIRE PRESSURE WARNING VALVE SUB-ASSEMBLY

- (a) Insert the tire pressure warning valve and transmitter into the valve installation hole. Insert it from the inside of the rim so that the printed surface can be seen.

NOTICE:

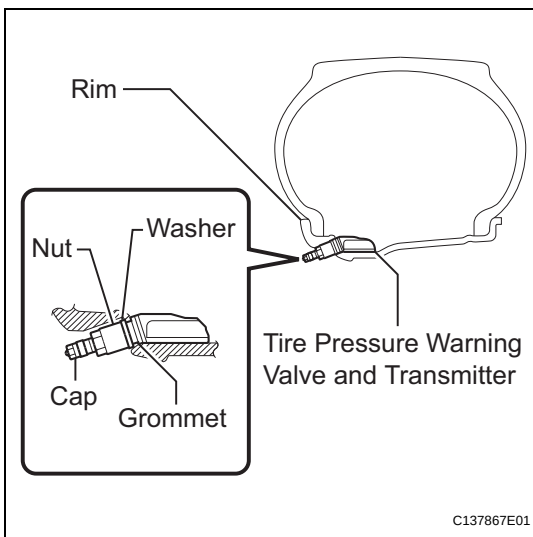
- Check that there is no visible deformation, damage, or other abnormalities on the tire pressure warning valve and transmitter.
- Check that there is no foreign matter on the inner grommet and around the rim hole.
- If the tire pressure warning valve and transmitter is installed upside down, it may be damaged or fail to transmit signals when running at high speeds.
- If installing a new tire pressure warning valve and transmitter, write down the ID number before installation.
- It is necessary to register the ID in the ECU after installation (See page [TW-15](#)).

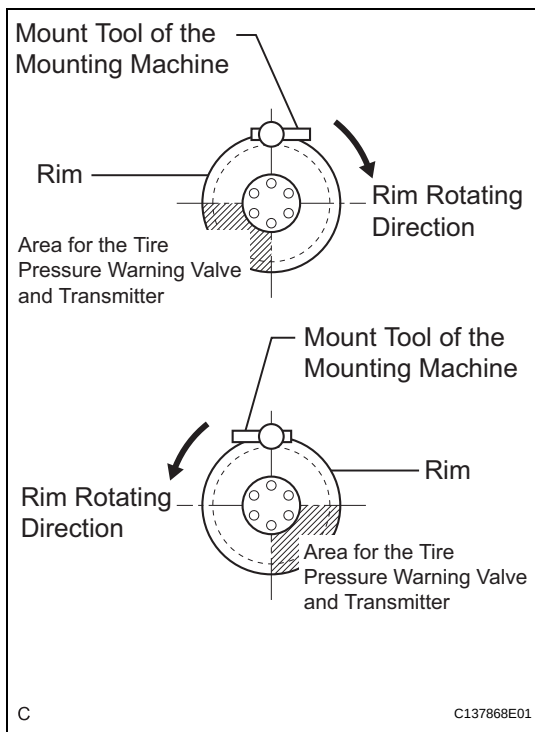
- (b) Install the washer on the tire pressure warning valve and transmitter from the rim side and tighten the nut.

Torque: 4.0 N*m (41 kgf*cm, 35 in.*lbf)

NOTICE:

- No further tightening is required once the nut is tightened to the specified torque.
- Check that there is no foreign matter on the washer and nut.
- If the tire and tire pressure warning valve and transmitter have been removed, check that there is no damage or cuts visible, and no foreign matter, such as mud, dirt, or sand is attached to the grommet. Replace the grommet with a new one if any of the defects mentioned above are found.
- Check that there is no oil, water, or lubricant around the rim hole, tire pressure warning valve and transmitter, washer, and nut. Failing to do so may result in improper installation.





- (c) Set the wheel disc to the mounting machine and install the lower tire bead. Position the main body of the tire pressure warning valve and transmitter in the shaded area shown in the illustration.

NOTICE:

- If the tire pressure warning valve and transmitter is positioned outside this area, it will be interfered with the tire bead, and may cause damage to the tire pressure warning valve and transmitter.
- If the use of lubricant is required when installing the bead, do not apply the lubricant directly to the tire pressure warning valve and transmitter.

- (d) Install the upper bead.

NOTICE:

Make sure that the tire bead and tool do not interfere with the main body of the tire pressure warning valve and transmitter and that it is not clamped by the bead.

- (e) After the tire is inflated, the valve nut may be loose. Retighten the nut to the specified torque and then check for air leaks with soapy water.

Torque: 4.0 N*m (41 kgf*cm, 35 in.*lbf)

NOTICE:

No further tightening is required once the nut is tightened to the specified torque.

2. INSTALL FRONT WHEEL

Torque: 103 N*m (1,050 kgf*cm, 76 ft.*lbf)

3. INSTALL REAR WHEEL

Torque: 103 N*m (1,050 kgf*cm, 76 ft.*lbf)

4. INSTALL GRAND SPARE TIRE (w/ Grand Spare Tire)

5. INSPECT TIRE

HINT:

(See page [TW-3](#))

6. REGISTER TRANSMITTER ID

HINT:

(See page [TW-15](#))

7. INSPECT TIRE PRESSURE WARNING SYSTEM

HINT:

(See page [TW-20](#))

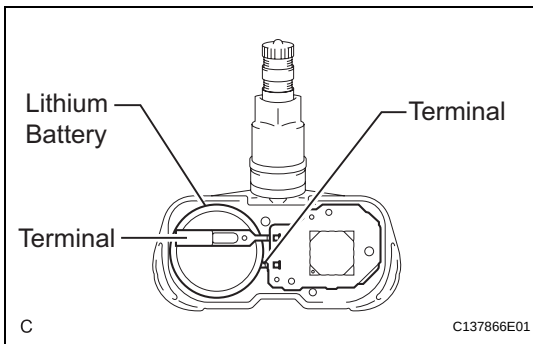
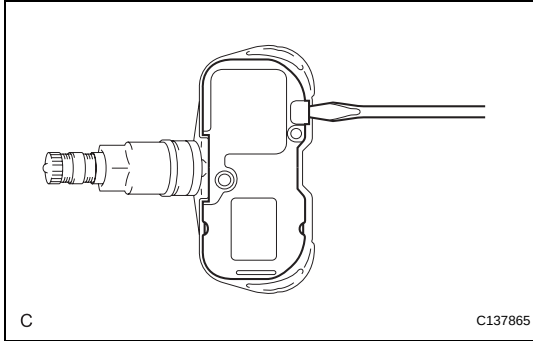
DISPOSAL

HINT:

The tire pressure warning valve sub-assembly is powered by a lithium battery. When disposing of the tire pressure warning valve sub-assembly, remove the battery and dispose of it correctly.

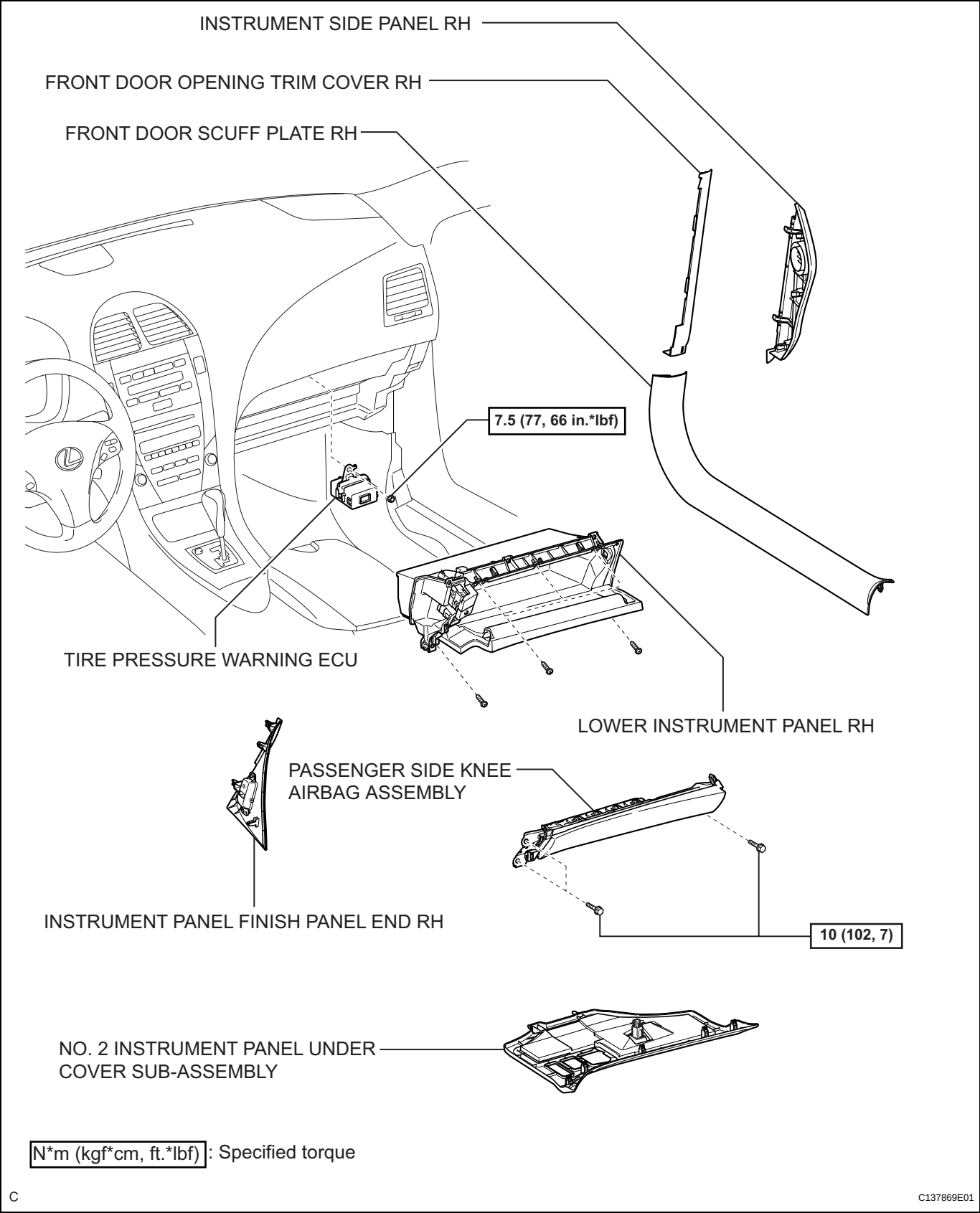
1. DISPOSE OF TIRE PRESSURE WARNING VALVE SUB-ASSEMBLY

- (a) Use the tip of a screwdriver to pry off the back cover.
- (b) The battery and base board covered with resin are exposed. While taking out the battery, cut the 2 terminals that connect the battery to the base board.



TIRE PRESSURE WARNING ECU

COMPONENTS



REMOVAL

NOTICE:

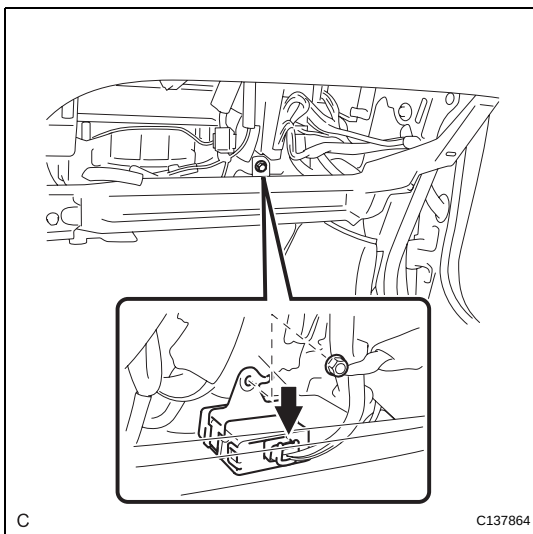
Before removing the tire pressure warning ECU, read the registered transmitter IDs of all wheels and write them down to use for re-registration of transmitter IDs (See page [TW-15](#)).

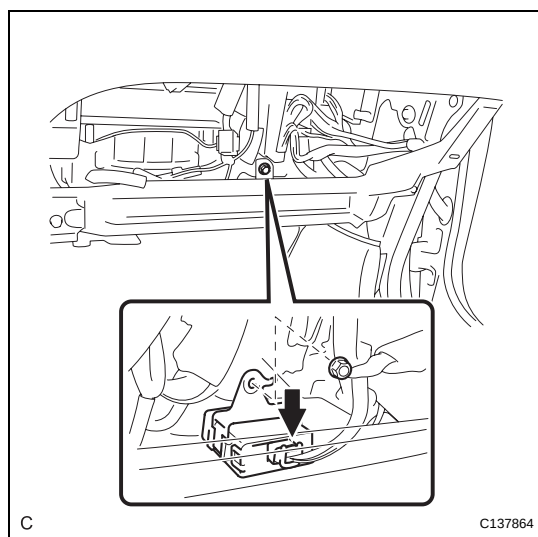
1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

CAUTION:

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

2. REMOVE FRONT DOOR SCUFF PLATE RH (See page [IR-42](#))
3. REMOVE FRONT DOOR OPENING TRIM COVER RH (See page [IR-42](#))
4. REMOVE INSTRUMENT SIDE PANEL RH (See page [IP-15](#))
5. REMOVE INSTRUMENT PANEL FINISH PANEL END RH (See page [IP-15](#))
6. REMOVE NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (See page [IP-15](#))
7. REMOVE PASSENGER SIDE KNEE AIRBAG ASSEMBLY (See page [RS-396](#))
8. REMOVE LOWER INSTRUMENT PANEL RH (See page [IP-16](#))
9. REMOVE TIRE PRESSURE WARNING ECU
 - (a) Remove the nut.
 - (b) Disconnect the connector and remove the tire pressure warning ECU.



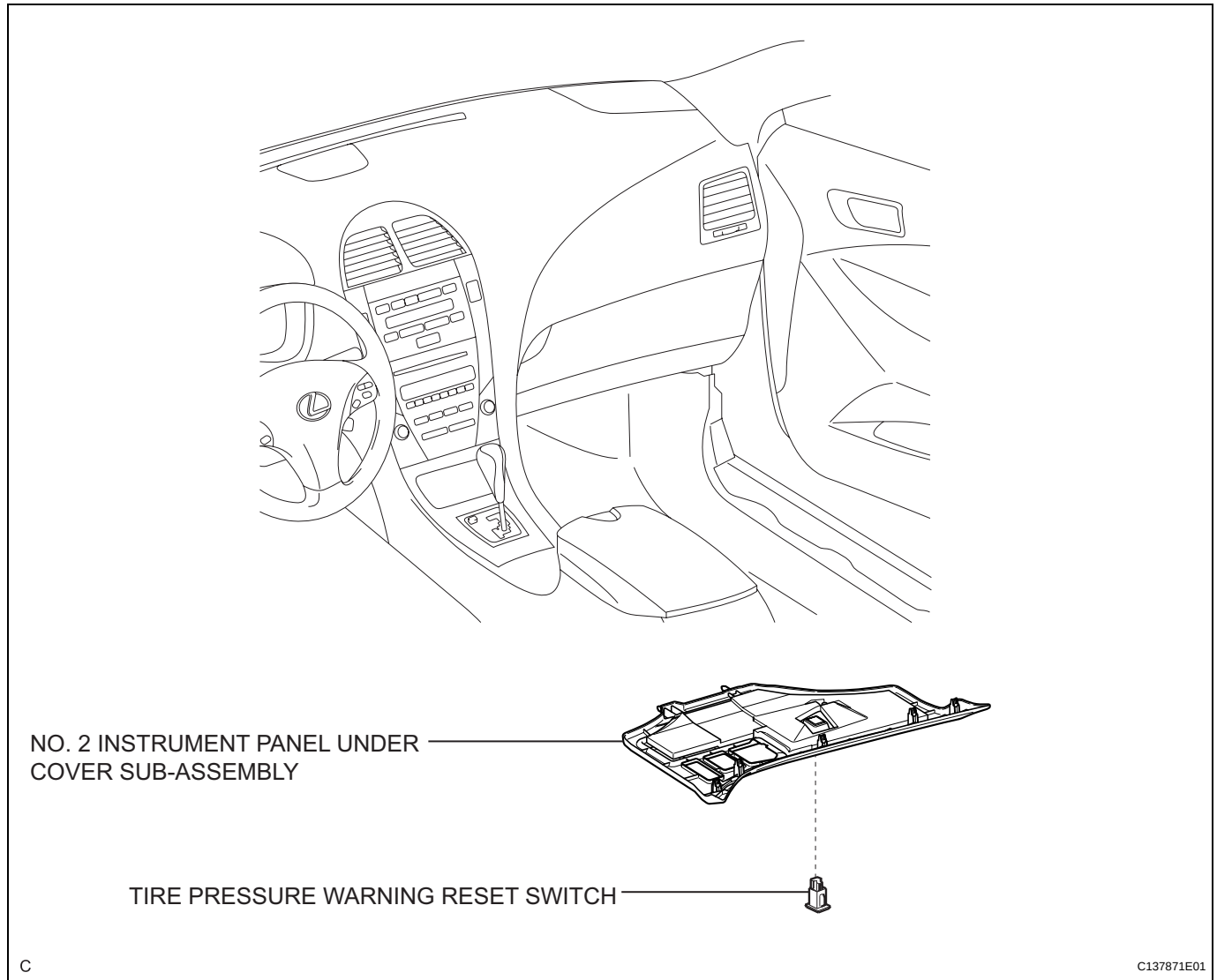


INSTALLATION

1. **INSTALL TIRE PRESSURE WARNING ECU**
 - (a) Connect the connector to the tire pressure warning ECU.
 - (b) Install the tire pressure warning ECU with the nut.
Torque: 7.5 N*m (77 kgf*cm, 66 in.*lbf)
2. **INSTALL LOWER INSTRUMENT PANEL RH** (See page [IP-42](#))
3. **INSTALL PASSENGER SIDE KNEE AIRBAG ASSEMBLY** (See page [RS-396](#))
4. **INSTALL NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY** (See page [IP-44](#))
5. **INSTALL INSTRUMENT PANEL FINISH PANEL END RH** (See page [IP-44](#))
6. **INSTALL INSTRUMENT SIDE PANEL RH** (See page [IP-43](#))
7. **INSTALL FRONT DOOR OPENING TRIM COVER RH** (See page [IR-65](#))
8. **INSTALL FRONT DOOR SCUFF PLATE RH** (See page [IR-65](#))
9. **CONNECT CABLE TO BATTERY NEGATIVE TERMINAL**
10. **PERFORM INITIALIZATION**
NOTICE:
Some systems need initialization after reconnecting the cable to the negative battery terminal (See page [IN-33](#)).
11. **REGISTER TRANSMITTER ID**
HINT:
(See page [TW-15](#))
12. **INSPECT TIRE PRESSURE WARNING SYSTEM**
HINT:
(See page [TW-20](#))
13. **INITIALIZE SYSTEM**
NOTICE:
 - Be sure to register the transmitter IDs of all tires including the grand spare tire in the ECU before initialization.
 - Be sure to inflate all tires including the grand spare tire to the proper inflation pressure before initialization.**HINT:**
(See page [TW-18](#))

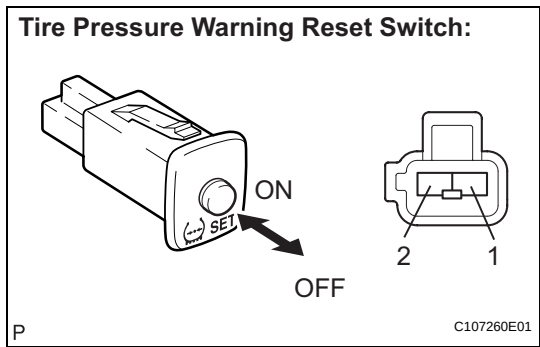
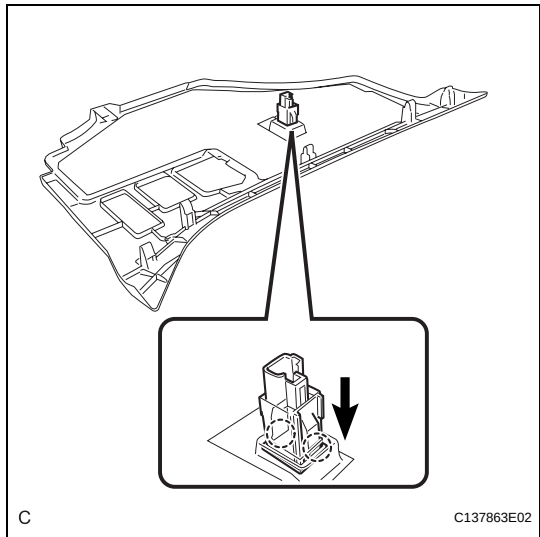
TIRE PRESSURE WARNING RESET SWITCH

COMPONENTS



REMOVAL

- 1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL
- 2. REMOVE NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (See page IP-15)
- 3. REMOVE TIRE PRESSURE WARNING RESET SWITCH
 - (a) Disengage the 2 claws and remove the tire pressure warning reset switch from the No. 2 instrument panel under cover sub-assembly.



INSPECTION

- 1. INSPECT TIRE PRESSURE WARNING RESET SWITCH
 - (a) Remove the tire pressure warning reset switch.
 - (b) Measure the resistance between terminals 1 and 2 of the tire pressure warning reset switch when the tire pressure warning switch is ON and OFF.

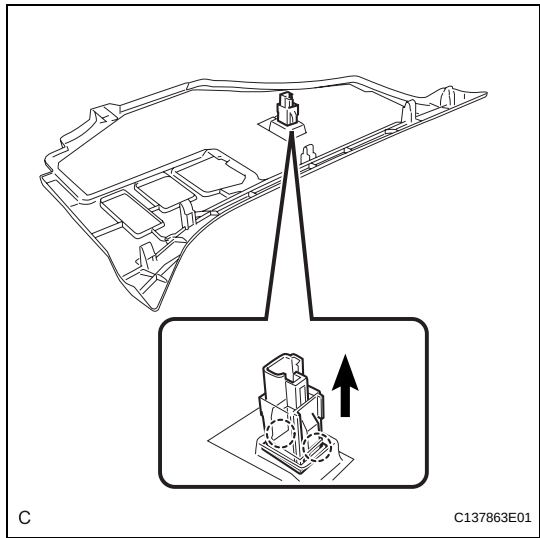
Standard resistance

Switch Condition	Specified Condition
ON	Below 1Ω
OFF	10 kΩ or higher

If the result is not as specified, replace the tire pressure warning reset switch.

INSTALLATION

- 1. INSTALL TIRE PRESSURE WARNING RESET SWITCH
 - (a) Engage the 2 claws to install the tire pressure warning reset switch to the No. 2 instrument panel under cover sub-assembly.
 - 2. INSTALL NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (See page IP-44)
 - 3. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL
 - 4. PERFORM INITIALIZATION
- NOTICE:**
Some systems need initialization after reconnecting the cable to the negative battery terminal (See page IN-33).



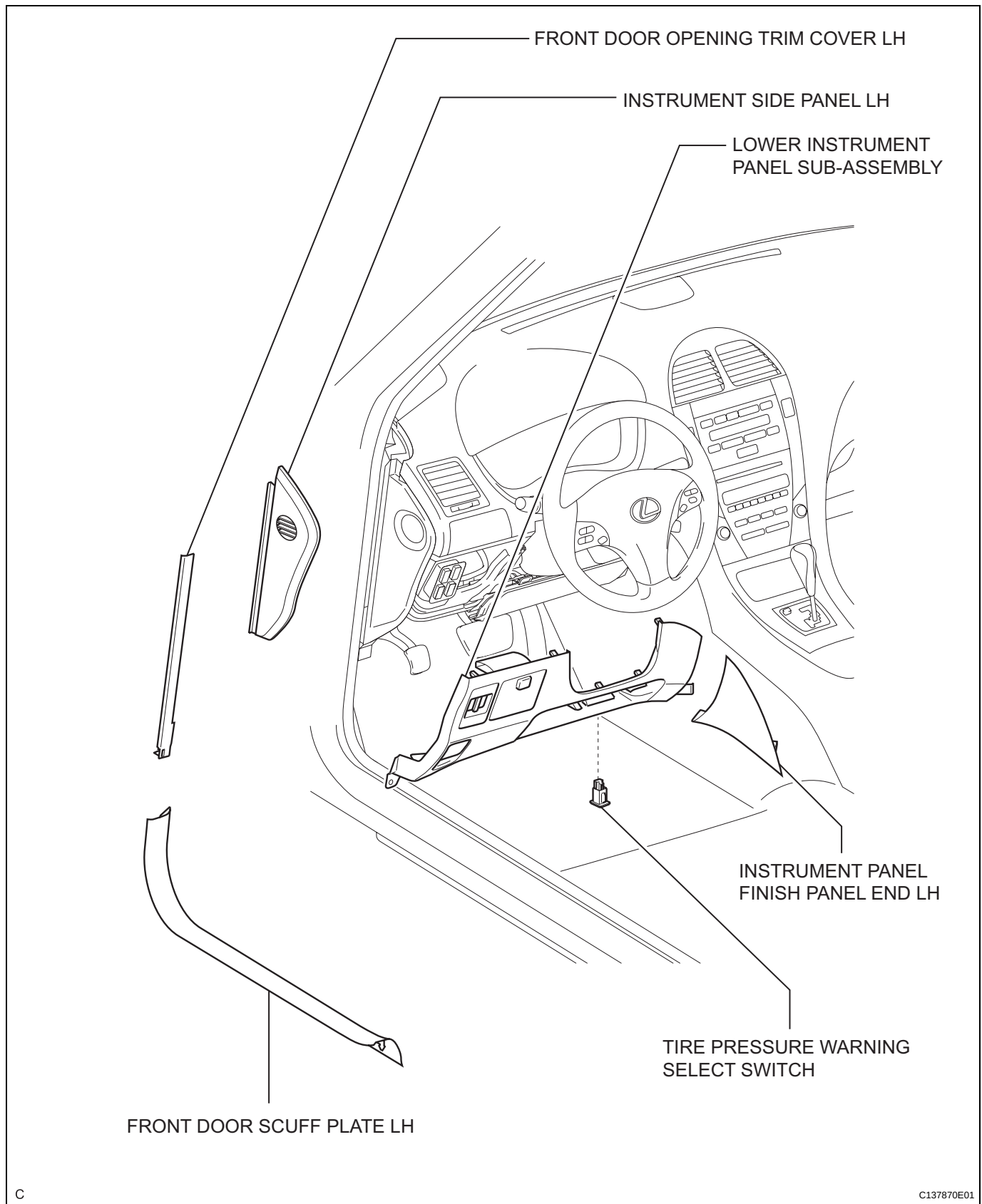
5. INSPECT TIRE PRESSURE WARNING SYSTEM

HINT:

(See page [TW-20](#))

TIRE PRESSURE WARNING SELECT SWITCH

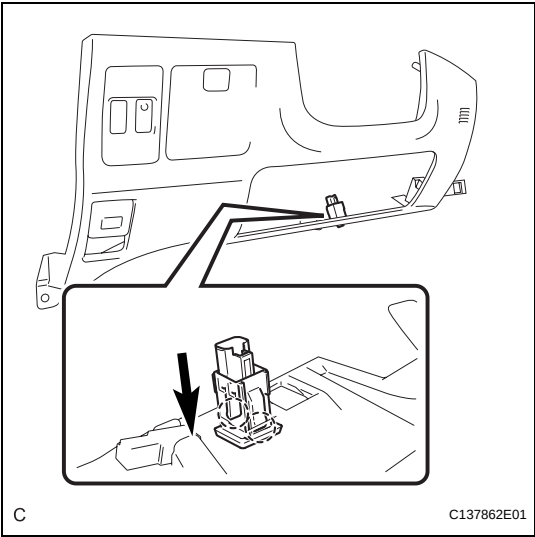
COMPONENTS



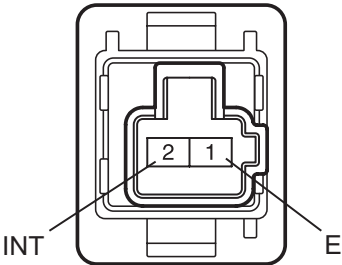
TW

REMOVAL

- 1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL
- 2. REMOVE FRONT DOOR SCUFF PLATE LH (See page IR-39)
- 3. REMOVE FRONT DOOR OPENING TRIM COVER LH (See page IR-39)
- 4. REMOVE INSTRUMENT SIDE PANEL LH (See page IP-12)
- 5. REMOVE INSTRUMENT PANEL FINISH PANEL END LH (See page IP-13)
- 6. REMOVE LOWER INSTRUMENT PANEL SUB-ASSEMBLY (See page IP-13)
- 7. REMOVE TIRE PRESSURE WARNING SELECT SWITCH
 - (a) Disengage the 2 claws and remove the tire pressure warning select switch from the lower instrument panel sub-assembly.



Tire Pressure Warning Select Switch:



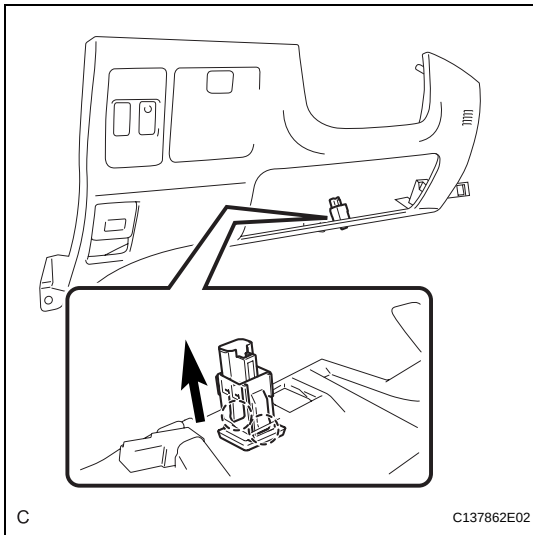
INSPECTION

- 1. INSPECT TIRE PRESSURE WARNING SELECT SWITCH
 - (a) Remove the tire pressure warning select switch.
 - (b) Measure the resistance according to the value(s) in the table below.

Standard resistance

Switch Position	Tester Connection	Specified Condition
MAIN	2 (INT) - 1 (E)	10 kΩ or higher
2nd	2 (INT) - 1 (E)	Below 1Ω

If the result is not as specified, replace the tire pressure warning select switch.



INSTALLATION

1. INSTALL TIRE PRESSURE WARNING SELECT SWITCH

- (a) Engage the 2 claws to install the tire pressure warning reset switch to the lower instrument panel sub-assembly.

2. INSTALL LOWER INSTRUMENT PANEL SUB-ASSEMBLY (See page [IP-46](#))

3. INSTALL INSTRUMENT PANEL FINISH PANEL END LH (See page [IP-46](#))

4. INSTALL INSTRUMENT SIDE PANEL LH (See page [IP-47](#))

5. INSTALL FRONT DOOR OPENING TRIM COVER LH (See page [IR-64](#))

6. INSTALL FRONT DOOR SCUFF PLATE LH (See page [IR-65](#))

7. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

8. PERFORM INITIALIZATION

NOTICE:

Some systems need initialization after reconnecting the cable to the negative battery terminal (See page [IN-33](#)).

9. INSPECT TIRE PRESSURE WARNING SYSTEM

HINT:

(See page [TW-20](#))