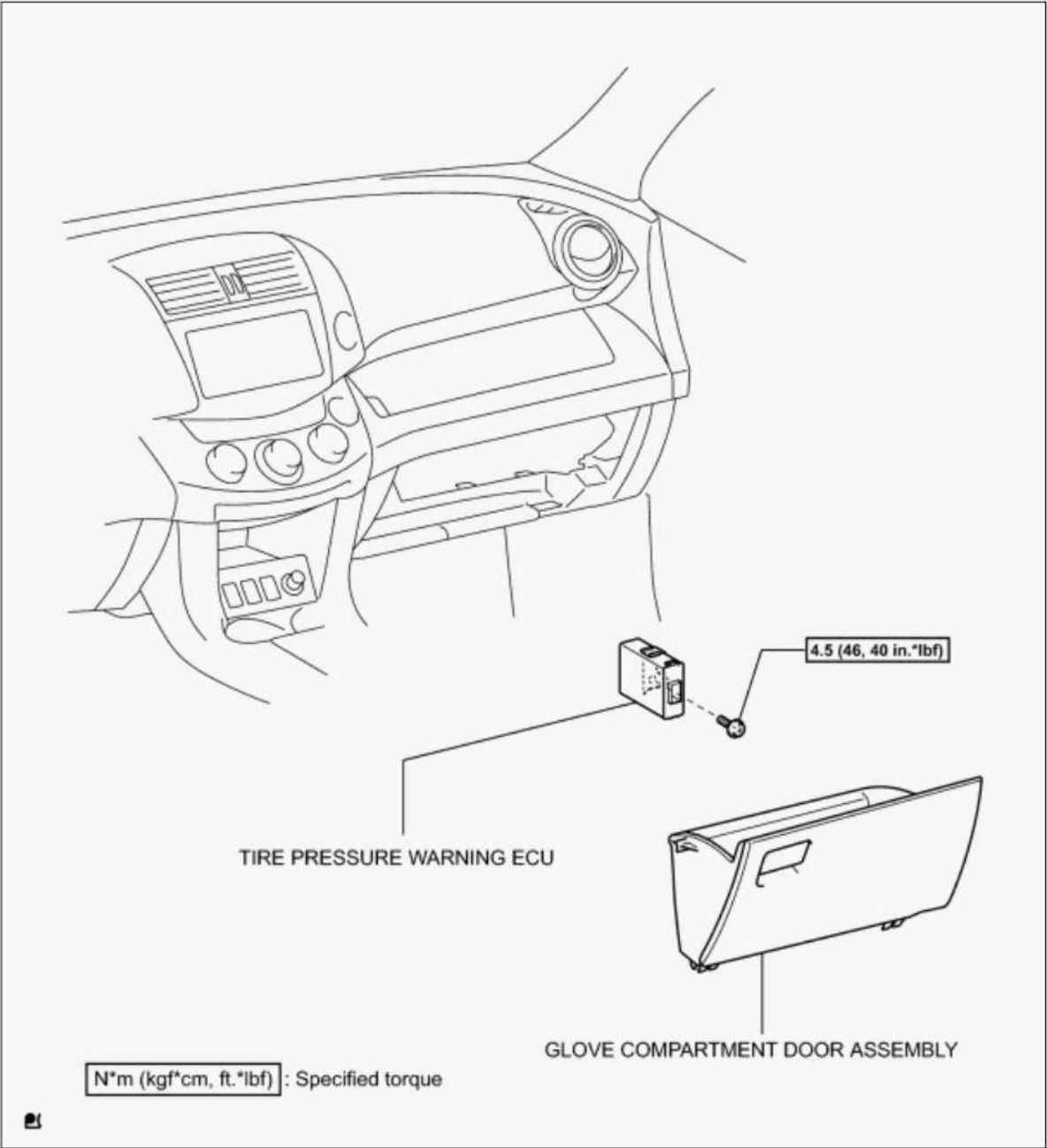


Last Modified: 9-7-2011	6.4 K	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000001Y9N006X
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING ECU: COMPONENTS (2011 RAV4)		

COMPONENTS

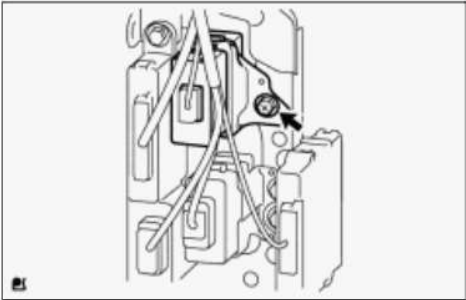
ILLUSTRATION



Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000001Y9M006X
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING ECU: INSTALLATION (2011 RAV4)		

INSTALLATION

1. INSTALL TIRE PRESSURE WARNING ECU



- (a) Install the ECU with the bolt.
- Torque: 4.5 N·m (46 kgf·cm, 40in·lbf)

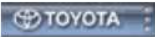
(b) Connect the connector.

2. INSTALL GLOVE COMPARTMENT DOOR ASSEMBLY INFO

3. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

4. REGISTER TRANSMITTER ID INFO

5. INSPECT TIRE PRESSURE WARNING SYSTEM



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Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000001Y9O006X
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING ECU: REMOVAL (2011 RAV4)		

REMOVAL

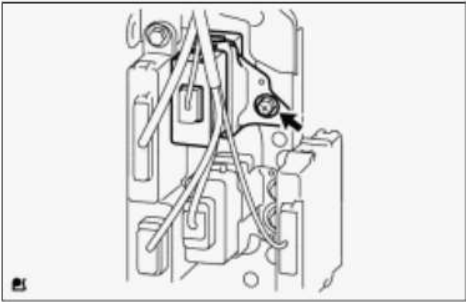
1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

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

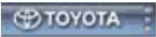
2. REMOVE GLOVE COMPARTMENT DOOR ASSEMBLY INFO

3. REMOVE TIRE PRESSURE WARNING ECU

(a) Disconnect the connector.



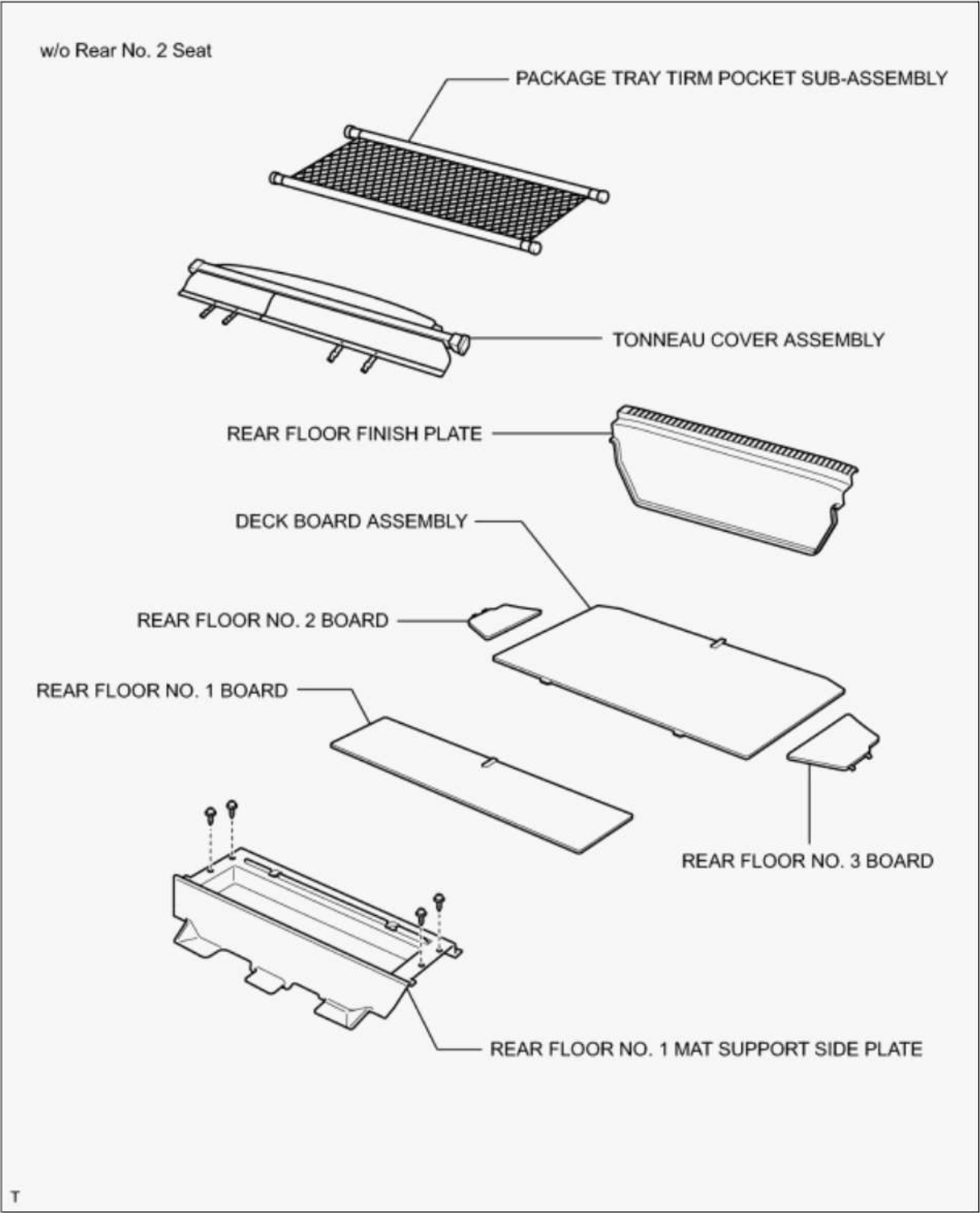
(b) Remove the bolt and ECU.



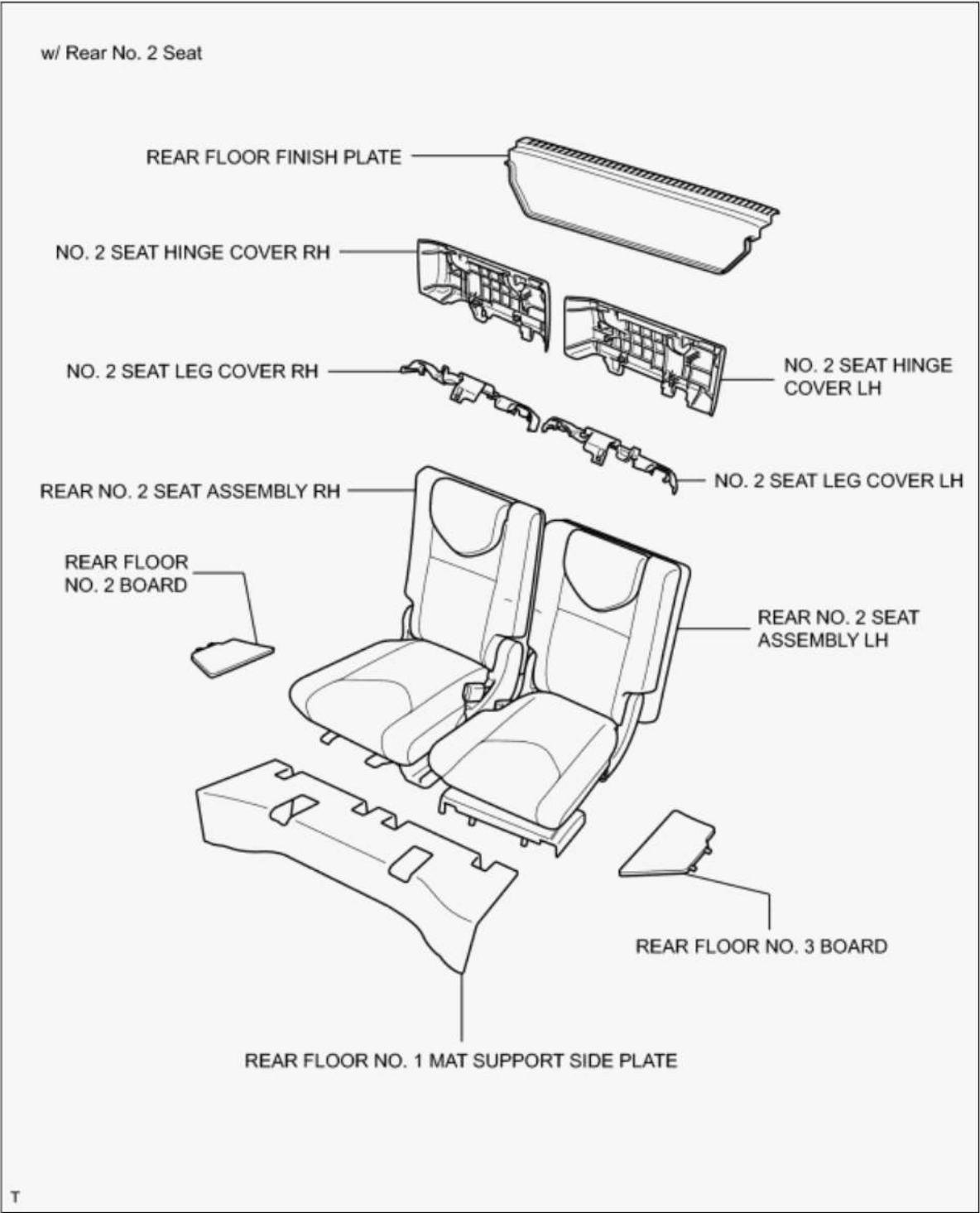
Last Modified: 9-7-2011	6.4 K	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000001Y9H006X
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING RECEIVER (w/ Antenna): COMPONENTS (2011 RAV4)		

COMPONENTS

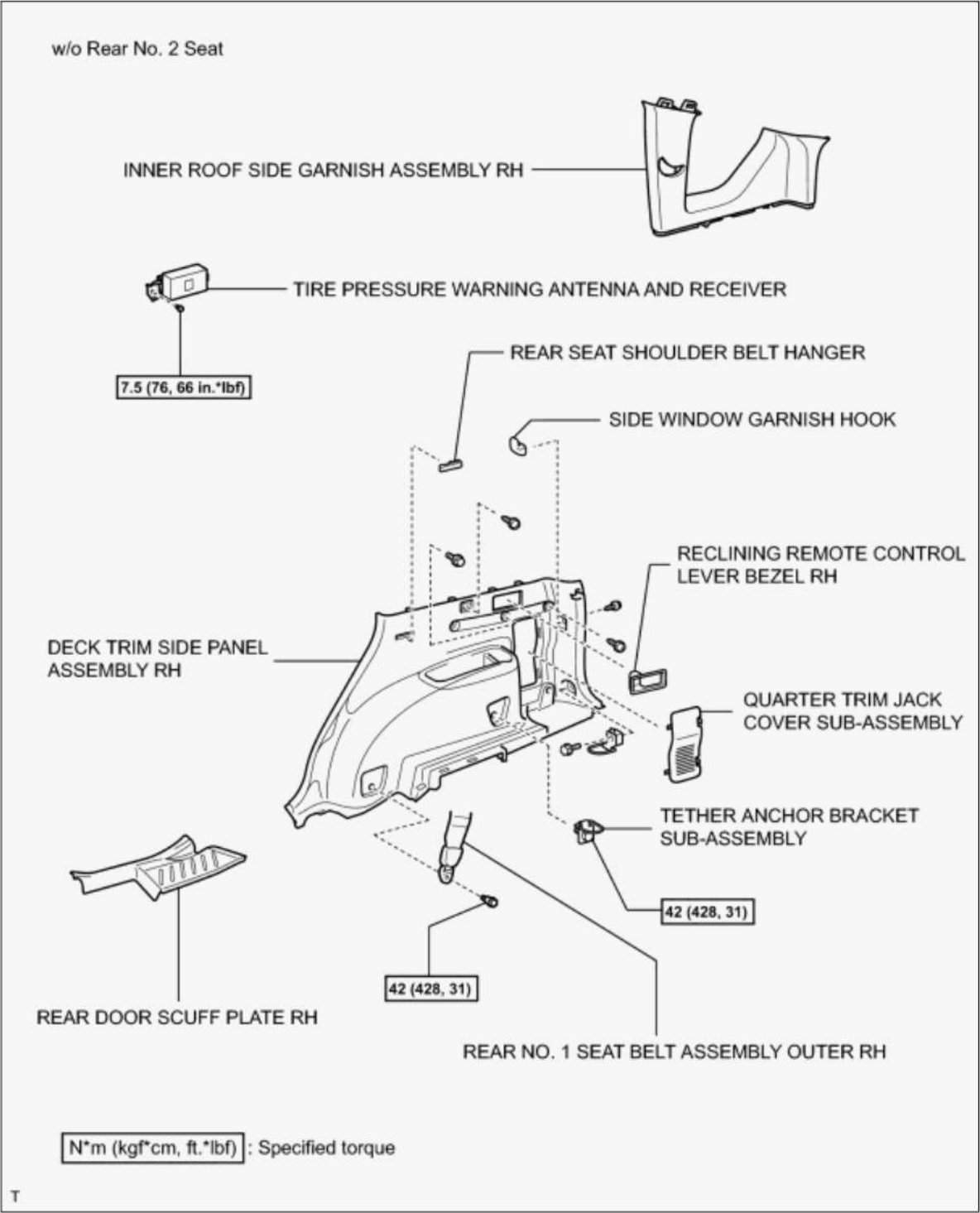
ILLUSTRATION



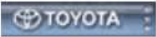
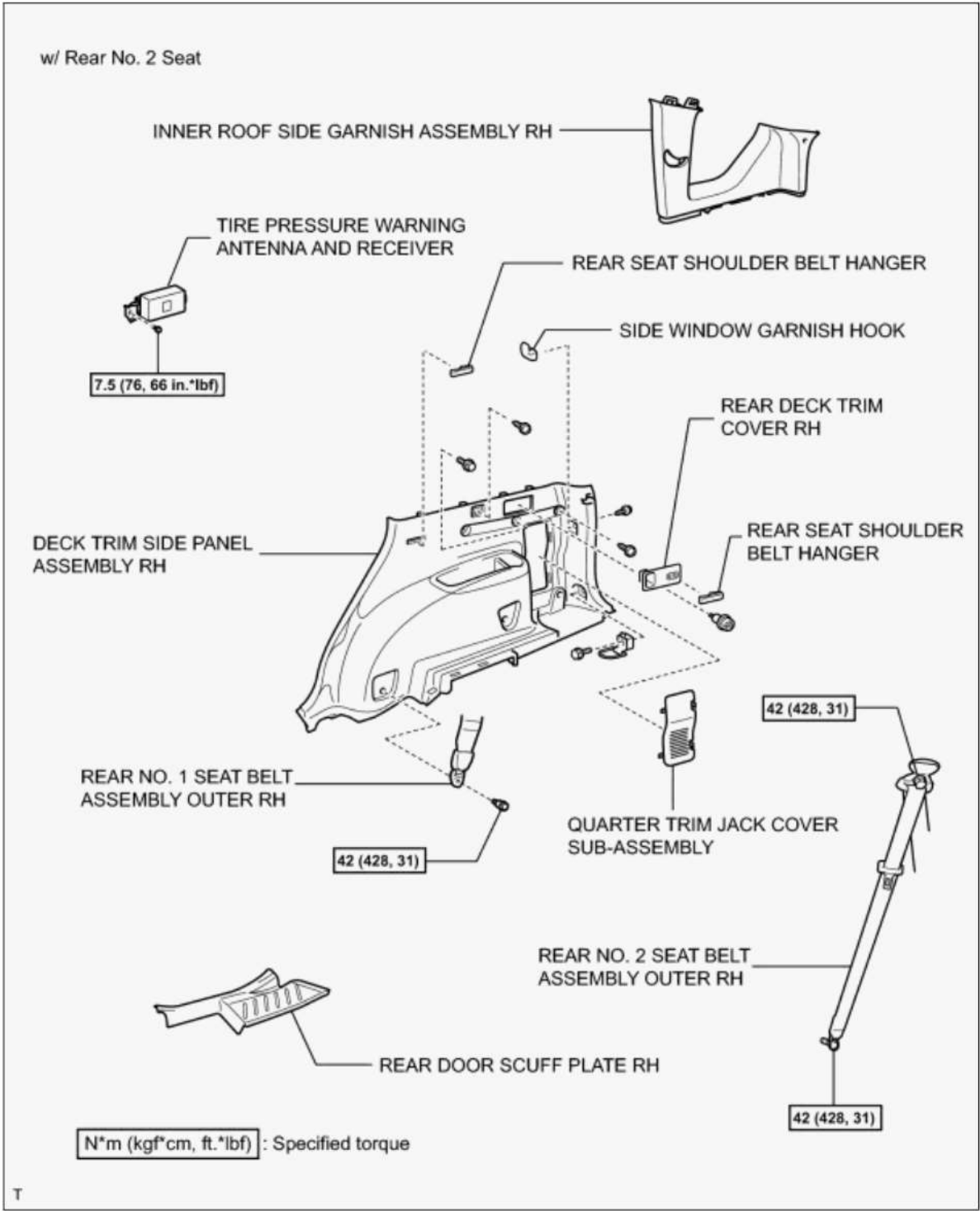
ILLUSTRATION



ILLUSTRATION



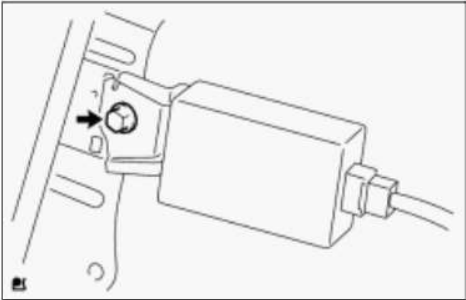
ILLUSTRATION



Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000001Y9G006X
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING RECEIVER (w/ Antenna): INSTALLATION (2011 RAV4)		

INSTALLATION

1. INSTALL TIRE PRESSURE WARNING ANTENNA AND RECEIVER



(a) Install the receiver with the bolt.
Torque: 7.5 N·m (76 kgf·cm, 66in·lbf)

(b) Connect the connector.

2. INSTALL INNER ROOF SIDE GARNISH ASSEMBLY RH
3. INSTALL DECK TRIM SIDE PANEL ASSEMBLY RH (w/o Rear No. 2 Seat)
4. INSTALL DECK TRIM SIDE PANEL ASSEMBLY RH (w/ Rear No. 2 Seat)
5. INSTALL TETHER ANCHOR BRACKET SUB-ASSEMBLY (w/o Rear No. 2 Seat)
6. INSTALL RECLINING REMOTE CONTROL LEVER BEZEL RH (w/o Rear No. 2 Seat)
7. INSTALL REAR DECK TRIM COVER RH (w/ Rear No. 2 Seat)
8. INSTALL REAR FLOOR FINISH PLATE
9. INSTALL REAR FLOOR NO. 1 MAT SUPPORT SIDE PLATE
10. INSTALL REAR FLOOR NO. 2 BOARD
11. INSTALL REAR FLOOR NO. 3 BOARD
12. INSTALL REAR NO. 2 SEAT ASSEMBLY LH (w/ Rear No. 2 Seat)
13. INSTALL REAR NO. 2 SEAT ASSEMBLY RH (w/ Rear No. 2 Seat)
14. INSTALL NO. 2 SEAT LEG COVER LH (w/ Rear No. 2 Seat)
15. INSTALL NO. 2 SEAT LEG COVER RH (w/ Rear No. 2 Seat)
16. INSTALL NO. 2 SEAT HINGE COVER LH (w/ Rear No. 2 Seat)
17. INSTALL NO. 2 SEAT HINGE COVER RH (w/ Rear No. 2 Seat)
18. INSTALL DECK BOARD ASSEMBLY (w/o Rear No. 2 Seat)

TIRE AND WHEEL: TIRE PRESSURE WARNING RECEIVER (w/ A... <https://techinfo.toyota.com/t3Portal/document/rm/RM16B0U/xhtml/RM...>

19. INSTALL REAR FLOOR NO. 1 BOARD (w/o Rear No. 2 Seat)

20. INSTALL TONNEAU COVER ASSEMBLY (w/o Rear No. 2 Seat)

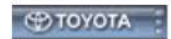
21. INSTALL PACKAGE TRAY TRIM POCKET SUB-ASSEMBLY (w/o Rear No. 2 Seat)

22. INSTALL REAR DOOR SCUFF PLATE RH 

23. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

24. REGISTER TRANSMITTER ID 

25. INSPECT TIRE PRESSURE WARNING SYSTEM



Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000001Y9I006X
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING RECEIVER (w/ Antenna): REMOVAL (2011 RAV4)		

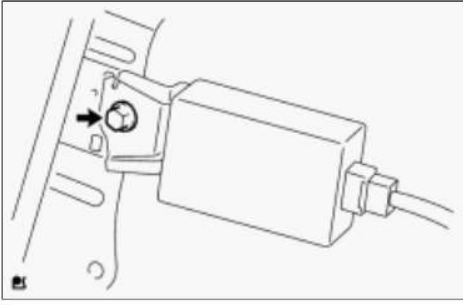
REMOVAL

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 REAR DOOR SCUFF PLATE RH INFO
3. REMOVE PACKAGE TRAY TRIM POCKET SUB-ASSEMBLY (w/o Rear No. 2 Seat)
4. REMOVE TONNEAU COVER ASSEMBLY (w/o Rear No. 2 Seat)
5. REMOVE REAR FLOOR NO. 1 BOARD (w/o Rear No. 2 Seat)
6. REMOVE DECK BOARD ASSEMBLY (w/o Rear No. 2 Seat)
7. REMOVE NO. 2 SEAT HINGE COVER LH (w/ Rear No. 2 Seat) INFO
8. REMOVE NO. 2 SEAT HINGE COVER RH (w/ Rear No. 2 Seat) INFO
9. REMOVE NO. 2 SEAT LEG COVER LH (w/ Rear No. 2 Seat) INFO
10. REMOVE NO. 2 SEAT LEG COVER RH (w/ Rear No. 2 Seat) INFO
11. REMOVE REAR NO. 2 SEAT ASSEMBLY LH (w/ Rear No. 2 Seat) INFO
12. REMOVE REAR NO. 2 SEAT ASSEMBLY RH (w/ Rear No. 2 Seat) INFO
13. REMOVE REAR FLOOR NO. 3 BOARD
14. REMOVE REAR FLOOR NO. 2 BOARD
15. REMOVE REAR FLOOR NO. 1 MAT SUPPORT SIDE PLATE INFO
16. REMOVE REAR FLOOR FINISH PLATE INFO
17. REMOVE REAR DECK TRIM COVER RH (w/ Rear No. 2 Seat) INFO
18. REMOVE RECLINING REMOTE CONTROL LEVER BEZEL RH (w/o Rear No. 2 Seat) INFO
19. REMOVE TETHER ANCHOR BRACKET SUB-ASSEMBLY (w/o Rear No. 2 Seat) INFO
20. REMOVE DECK TRIM SIDE PANEL ASSEMBLY RH (w/o Rear No. 2 Seat) INFO
21. REMOVE DECK TRIM SIDE PANEL ASSEMBLY RH (w/ Rear No. 2 Seat) INFO
22. REMOVE INNER ROOF SIDE GARNISH ASSEMBLY RH INFO
23. REMOVE TIRE PRESSURE WARNING ANTENNA AND RECEIVER
- (a) Disconnect the connector.

TIRE AND WHEEL: TIRE PRESSURE WARNING RECEIVER (w/ A... <https://techinfo.toyota.com/t3Portal/document/rm/RM16B0U/xhtml/RM...>



(b) Remove the bolt and receiver.



Last Modified: 9-7-2011	6.4 C	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000002DZD04PX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: C2111/11-C2115/15: Transmitter ID1 Operation Stop (2011 RAV4)		

DTC	C2111/11	Transmitter ID1 Operation Stop
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DTC	C2112/12	Transmitter ID2 Operation Stop
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DTC	C2113/13	Transmitter ID3 Operation Stop
------------	-----------------	---------------------------------------

DTC	C2114/14	Transmitter ID4 Operation Stop
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DTC	C2115/15	Transmitter ID5 Operation Stop
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DESCRIPTION

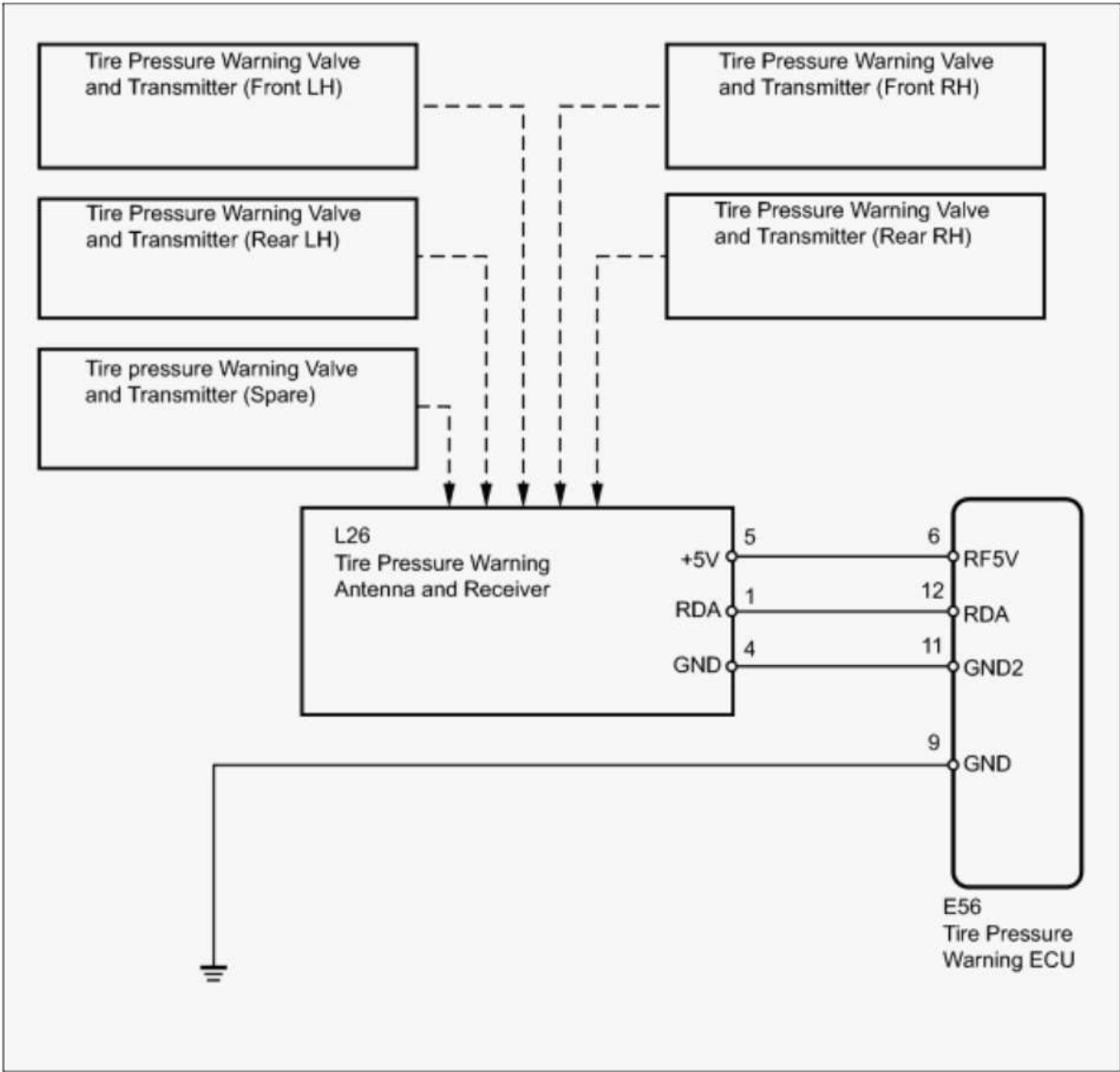
The tire pressure warning valve and transmitters that are installed in the tire and wheel assemblies measure the air pressure of the tires. The measured values are transmitted to the tire pressure warning antenna and receiver on the body as radio waves and then sent to the tire pressure warning ECU. The ECU compares the measured air pressure values with the air pressure threshold. When the measured air pressure value is less than this threshold, the warning light in the combination meter comes on. The tire pressure warning ECU stores a DTC when the tire pressure warning valve and transmitter stops transmitting signals. At this time, forcibly transmit the signals by releasing the tire pressure rapidly. The stored DTC is cleared when the signal transmission is resumed.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
C2111/11 C2112/12 C2113/13 C2114/14 C2115/15	Tire pressure warning valve and transmitters stop transmitting signals	• Tire pressure warning valve and transmitter • Tire pressure warning ECU

HINT:

It is necessary to perform the procedure to identify the tire pressure warning valve and transmitter that is malfunctioning because it cannot be identified by the output DTC.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:
It is necessary to register the transmitter IDs after replacing the tire pressure warning valve and transmitter and/or the tire pressure warning ECU INFO .

PROCEDURE

1. PERFORM FORCED TRANSMISSION OF TRANSMITTER ID OF ALL WHEELS

- (a) Set the tire pressure of all the wheels to the specified value INFO .
- (b) Turn the ignition switch off.
- (c) Connect the Techstream to the DLC3.

(d) Turn the ignition switch ON.

(e) Turn the Techstream on.

(f) Confirm that the data of tire pressure of all the tires (including the spare tire) are displayed on the Techstream display. Enter the following menus: Chassis / Tire Pressure Monitor / Data List.

Tire Pressure Monitor:

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
ID1 Tire Inflation Pressure	ID1 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID2 Tire Inflation Pressure	ID2 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID3 Tire Inflation Pressure	ID3 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID4 Tire Inflation Pressure	ID4 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
ID5 Tire Inflation Pressure	ID5 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)

HINT:

***1: It may take about 2 or 3 minutes until the values are displayed. If the values are not displayed after a few minutes, perform troubleshooting according to the inspection procedure for DTCs C2121/21 to C2125/25** 

(g) Rapidly reduce the tire pressure for each wheel at least 40 kPa (0.4 kgf/cm², 5.8 psi) within 30 seconds.

(1) Check that each tire pressure data displayed on the Techstream display has changed.

OK:

Each tire pressure data displayed on the Techstream display will change to the value of the tire pressure.

NOTICE:

- It takes about 2 or 3 minutes to display the updated tire pressure data.
- If "ID Tire Inflation Pressure" data has not changed, reset the tire pressure to the appropriate specified value and rotate the tire 90 to 270 degrees (including the spare tire). Then rapidly reduce the tire pressure and recheck it.

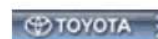
(2) After confirming that all of the tire pressure data displayed on the Techstream display has changed, set the tire pressure to the appropriate specified values.

HINT:

If the tire pressure data displayed on the Techstream display has not changed after rechecking, inspect for another problem .

NG  **GO TO TRANSMITTER AND RECEIVER INSPECTION PROCEDURE**

OK  **END**



TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: C2121/... <https://techinfo.toyota.com/t3Portal/document/rm/RM16B0U/xhtml/RM...>

Last Modified: 9-7-2011	6.4 C	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000000ZUQ05PX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: C2121/21-C2125/25,C2181/81-C2185/85: No Signal from Transmitter ID1 (2011 RAV4)		

DTC	C2121/21	No Signal from Transmitter ID1
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DTC	C2122/22	No Signal from Transmitter ID2
------------	-----------------	---------------------------------------

DTC	C2123/23	No Signal from Transmitter ID3
------------	-----------------	---------------------------------------

DTC	C2124/24	No Signal from Transmitter ID4
------------	-----------------	---------------------------------------

DTC	C2125/25	No Signal from Transmitter ID5
------------	-----------------	---------------------------------------

DTC	C2181/81	Transmitter ID1 not Received (Test Mode DTC)
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DTC	C2182/82	Transmitter ID2 not Received (Test Mode DTC)
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DTC	C2183/83	Transmitter ID3 not Received (Test Mode DTC)
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DTC	C2184/84	Transmitter ID4 not Received (Test Mode DTC)
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DTC	C2185/85	Transmitter ID5 not Received (Test Mode DTC)
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DESCRIPTION

The tire pressure warning valve and transmitters that are installed in the tire and wheel assemblies measure the

air pressure of the tires. The measured values are transmitted to the tire pressure warning antenna and receiver on the body as radio waves and then sent to the tire pressure warning ECU. The ECU compares the measured air pressure values with the air pressure threshold. When the measured air pressure value is less than this threshold, the warning light in the combination meter comes on.

The tire pressure warning valve and transmitters constantly send radio waves to the tire pressure warning antenna and receiver.

Under the conditions below, the tire pressure warning antenna and receiver is unable to receive the signals from the tire pressure warning valve and transmitters, and a DTC is stored.

- Facilities or devices that use similar radio frequencies are located in the vicinity of the vehicle.
- Devices using similar radio frequencies are used in the vehicle.
- The ID of the tire pressure warning valve and transmitter is mistyped during registration.
- A tire/wheel/transmitter from a different vehicle is installed.

HINT:

When no transmitter ID is received from a tire pressure warning valve and transmitter for a total of 20 minutes while the vehicle speed is more than 8 km/h (5 mph) or no transmitter ID is received from the all the tire pressure warning valve and transmitters for a total of 20 minutes, DTCs are stored.

DTCs from C2121/21 to C2125/25 can only be cleared by using the Techstream. DTCs from C2181/81 to C2185/85 can be cleared when the transmitter in the tire pressure warning valve and transmitter sends a forced transmission signal or test mode ends. DTCs from C2181/81 to C2185/85 are output only in test mode.

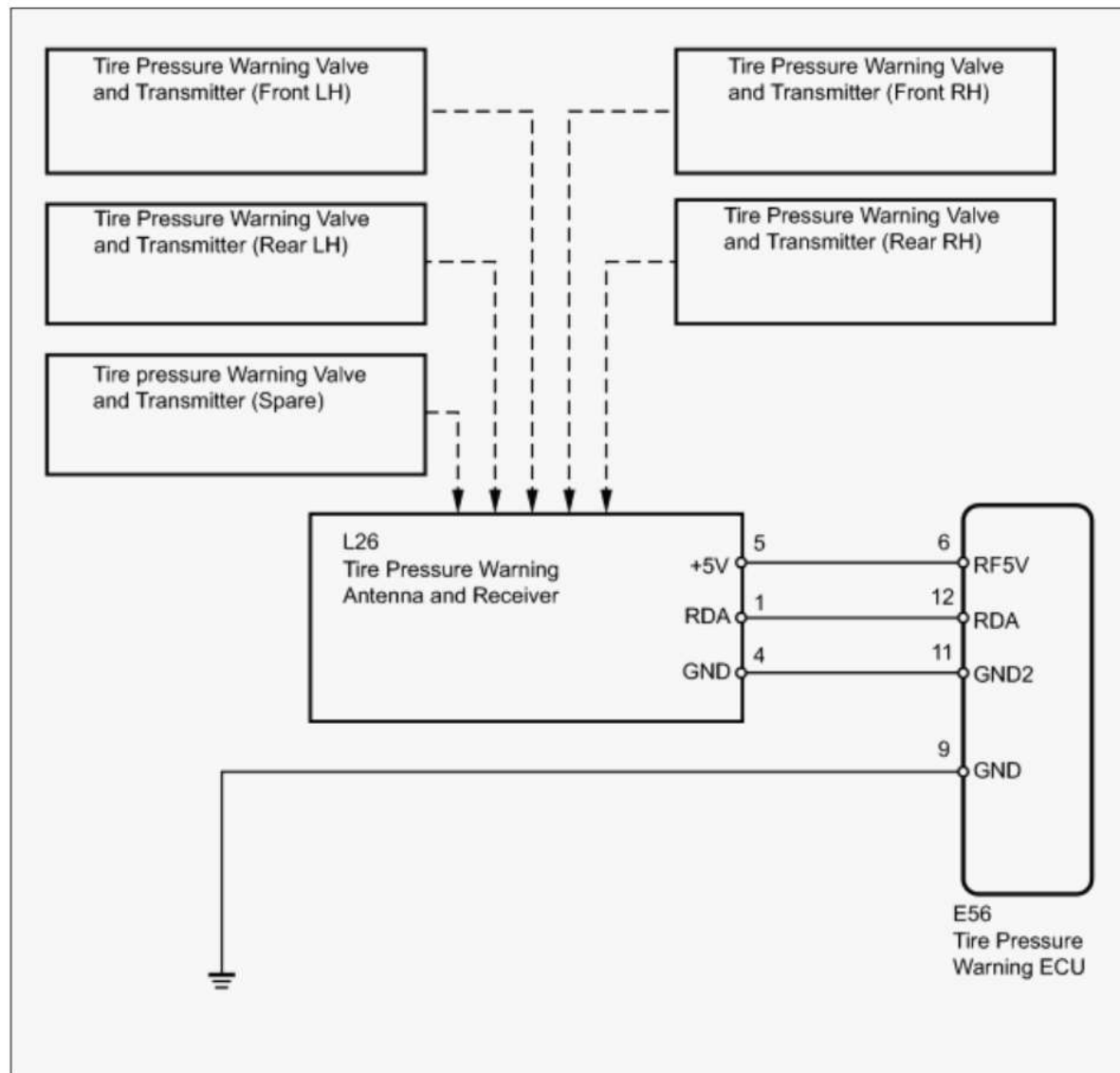
DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
C2121/21 C2122/22 C2123/23 C2124/24 C2125/25	Following condition (a) or (b) is met: (a) When all conditions below are met: • Tire pressure warning valve and transmitter is not in stop mode. • Any transmitter ID is not received from tire pressure warning valve and transmitters. • For 20 minutes or more, vehicle speed is more than 8 km/h (5 mph) or no vehicle speed signal or engine speed signal is received. (b) When all conditions below are met: • Tire pressure warning valve and transmitter is not in stop mode. • No transmitter ID is received from tire pressure warning valve and transmitters for 20 minute or more.	• Tire pressure warning valve and transmitter • Tire pressure warning antenna and receiver • Wire harness or connector • Tire pressure warning ECU
C2181/81 C2182/82 C2183/83 C2184/84 C2185/85	Malfunction in the transmitting/receiving circuit	• Tire pressure warning valve and transmitter • Tire pressure warning antenna and receiver • Wire harness or connector • Tire pressure warning ECU

NOTICE:

When DTCs C2121/21 to C2125/25 are stored in the tire pressure warning ECU, DTC C2173/73 may be stored simultaneously. In such cases, troubleshoot C2173/73 first, then troubleshoot DTCs C2121/21 to C2125/25.

HINT:

It is necessary to perform the procedure to identify the tire pressure warning valve and transmitter that is malfunctioning because it cannot be identified by the output DTC.

WIRING DIAGRAM**INSPECTION PROCEDURE****NOTICE:**

It is necessary to register the transmitter IDs after replacing the tire pressure warning valve and transmitter and/or the tire pressure warning ECU INFO.

PROCEDURE

1.	CHECK DTC (C2173/73)
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- (a) Turn the ignition switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the ignition switch ON.
- (d) Turn the Techstream on.
- (e) Read the DTCs. Enter the following menus: Chassis / Tire Pressure Monitor / Trouble Codes.
 - OK:
 - DTC C2173/73 is not output.

NOTICE:

When DTC C2173/73 is output, troubleshoot that DTC first. Then troubleshoot DTCs C2121/21 to C2125/25.

NG  **GO TO DTC C2173/73**

OK



2.	CHECK FREQUENCY RECEIVING CONDITION
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- (a) Check that the vehicle is not located in an area described below:
 - (1) Facilities or devices that use similar radio frequencies are located in the vicinity of the vehicle.

HINT:

If the vehicle is located in an area described above, the tire pressure warning light may come on only in a particular area.

- (2) Devices using similar radio frequencies are used in the vehicle.

OK:

Facilities, or devices that use similar radio frequencies are not located in the vicinity of the vehicle.

HINT:

Radio frequencies may be interrupted due to surroundings or devices installed by the user.

NG  **CHECK IF ANY DEVICE IS INSTALLED BY USER**

OK

3. IDENTIFY TRANSMITTER CORRESPONDING TO DTC

- (a) Set the tire pressure of all the wheels to the specified value .
- (b) Turn the ignition switch off.
- (c) Connect the Techstream to the DLC3.
- (d) Turn the ignition switch ON.
- (e) Turn the Techstream on.
- (f) Check the values by referring to the table below. Enter the following menus: Chassis / Tire Pressure Monitor / Data List.

Tire Pressure Monitor:

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
ID1 Tire Inflation Pressure	ID1 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID2 Tire Inflation Pressure	ID2 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID3 Tire Inflation Pressure	ID3 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
	-14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)		
ID4 Tire Inflation Pressure	ID4 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID5 Tire Inflation Pressure	ID5 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)

HINT:

***1: It may take about 2 or 3 minutes until the values are displayed.**

(g) Rapidly reduce the tire pressure for each wheel at least 40 kPa (0.4 kg/cm², 5.8 psi) within 30 seconds.

(h) Check the Data List.

NOTICE:

- It takes about 2 or 3 minutes to display the updated tire pressure data.
- If "ID Tire Inflation Pressure" data has not changed, reset the tire pressure to the appropriate specified value and rotate the tire 90 to 270 degrees. Then rapidly reduce the tire pressure and recheck it.
- Record the transmitter ID of which "ID Tire Inflation Pressure" data corresponds to each tire.

(i) After confirming that one of "ID Tire Inflation Pressure" data for one tire (ID1 to ID5) has changed, repeat this procedure one by one. Identify the transmitter that corresponds to the DTC.

Result:

RESULT	PROCEED TO
All abnormal	A

RESULT	PROCEED TO
All normal	B
One or more of transmitters abnormal	C

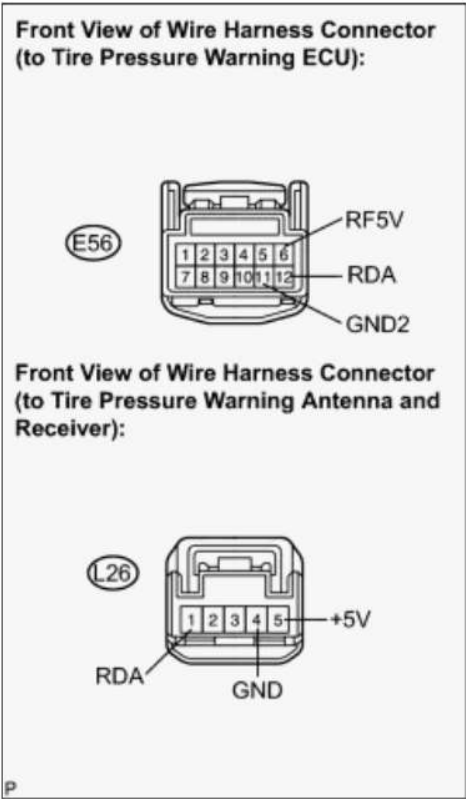
B ► **END**

C ► **INSPECT TIRE PRESSURE WARNING VALVE AND TRANSMITTER**

A
▼

4.

CHECK HARNESS AND CONNECTOR (ECU - RECEIVER)



(b) Disconnect the L26 receiver connector.

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

Standard resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E56-12 (RDA) - L26-1 (RDA)	Always	Below 1 Ω
E56-11 (GND2) - L26-4 (GND)		
E56-6 (RF5V) - L26-5 (+5V)		
E56-12 (RDA) - Body ground		10 k Ω or higher
E56-11 (GND2) - Body ground		
E56-6 (RF5V) - Body ground		

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



5.	INSPECT TIRE PRESSURE WARNING VALVE AND TRANSMITTER
-----------	--

- (a) Turn the ignition switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the ignition switch ON.
- (d) Turn the Techstream on.
- (e) Check the values by referring to the table below. Enter the following menus: Chassis / Tire Pressure Monitor / Data List.

Tire Pressure Monitor:

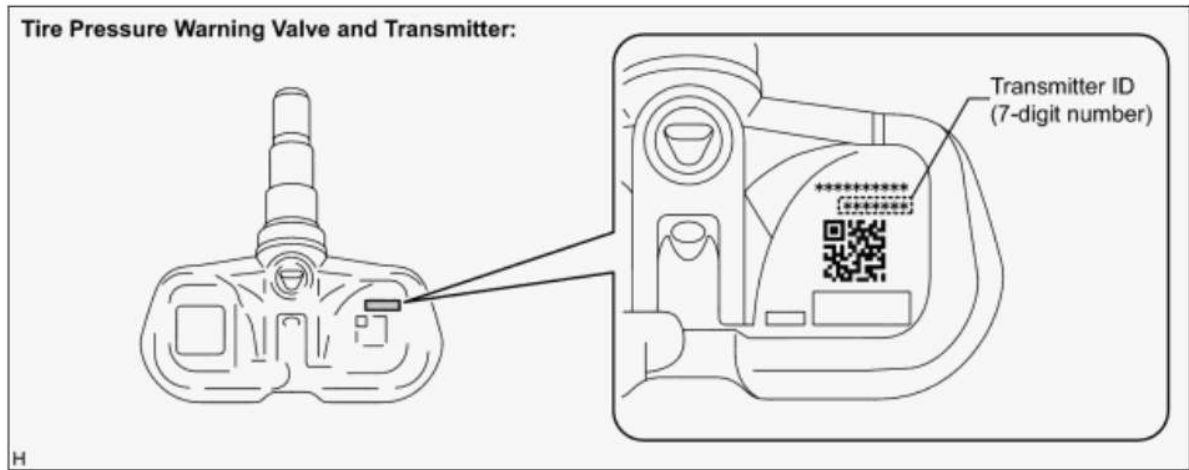
TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Registered ID1 Code	Registered ID1 code/ min.: 0 max.: FFFFFFFF (*1)	The ID No. registered in the transmitter ID1 is displayed	-
Registered ID2 Code	Registered ID2 code/ min.: 0 max.: FFFFFFFF (*1)	The ID No. registered in the transmitter ID2 is displayed	-
Registered ID3 Code	Registered ID3 code/ min.: 0 max.: FFFFFFFF (*1)	The ID No. registered in the transmitter ID3 is displayed	-

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Registered ID4 Code	Registered ID4 code/ min.: 0 max.: FFFFFFFF (*1)	The ID No. registered in the transmitter ID4 is displayed	-
Registered ID5 Code	Registered ID5 code/ min.: 0 max.: FFFFFFFF (*1)	The ID No. registered in the transmitter ID5 is displayed	-

HINT:

***1: Displayed only when the ID No. is not registered.**

(f) Check the ID number on the identified transmitter by removing it from the tire and wheel.



(g) Confirm that the ID number on the transmitter and recorded transmitter ID match.

Result:

RESULT	PROCEED TO
Match	A
Do not match	B

B **REGISTRATION OF TRANSMITTER ID**

A

6. **REPLACE TIRE PRESSURE WARNING VALVE AND TRANSMITTER**

(a) Replace the tire pressure warning valve and transmitter .

NEXT


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TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: C2121/... <https://techinfo.toyota.com/t3Portal/document/rm/RM16B0U/xhtml/RM...>

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TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: C2126/26... <https://techinfo.toyota.com/t3Portal/document/rm/RM16B0U/xhtml/RM...>

Last Modified: 9-7-2011	6.4 C	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM00000340704EX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: C2126/26: Transmitter ID not Received in Main Mode (2011 RAV4)		

DTC	C2126/26	Transmitter ID not Received in Main Mode
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DESCRIPTION

After all IDs are registered, DTC C2126/26 is set in the tire pressure warning ECU and the tire pressure warning light blinks for 1 minute and then comes on.

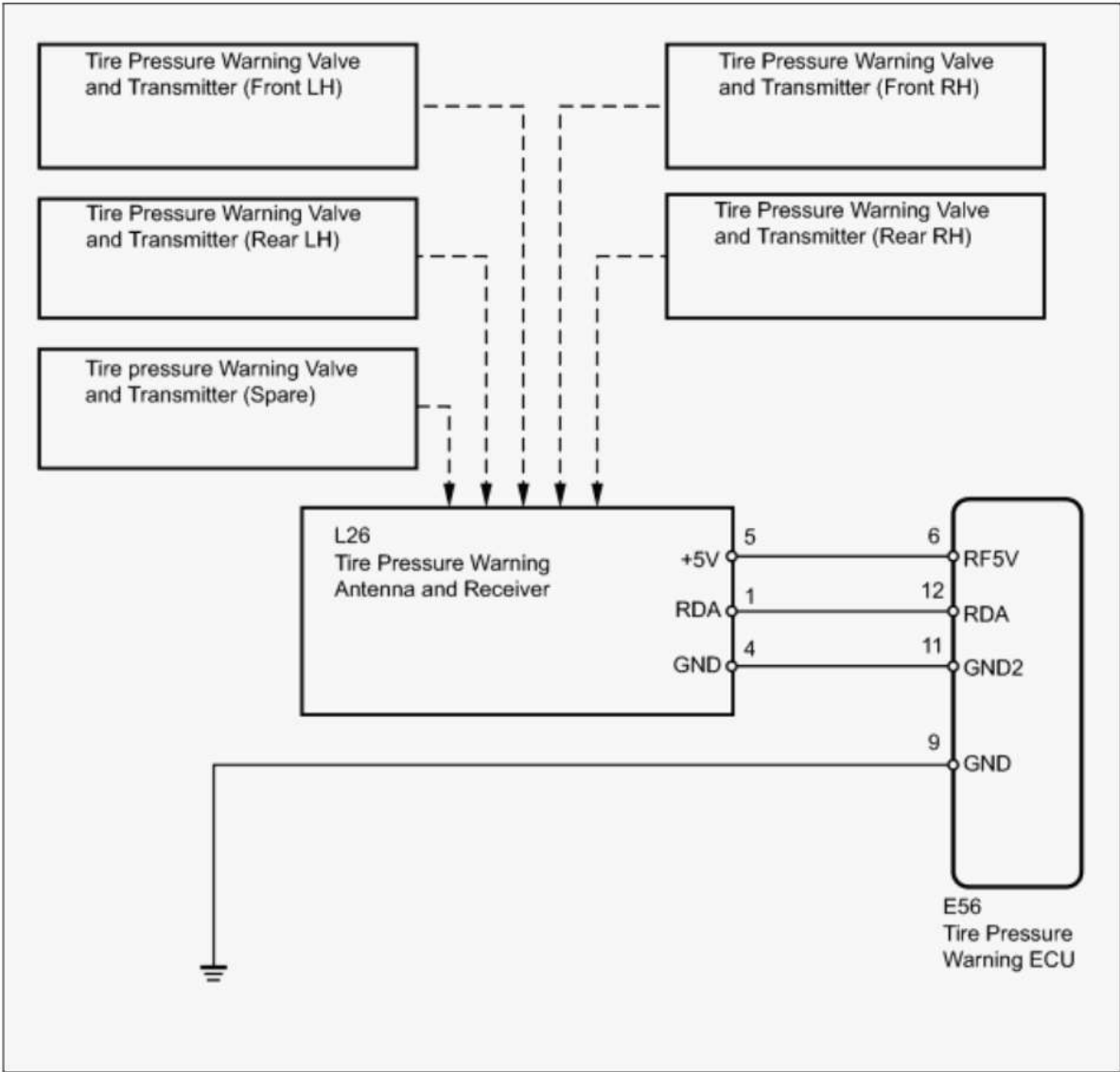
When the tire pressure warning ECU successfully receives radio waves from all the transmitters whose IDs are stored in the ECU, DTC C2126/26 is deleted and the tire pressure warning light goes off.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
C2126/26	After ID registration is completed, ECU does not receive radio waves from transmitters whose IDs are stored in ECU.	• ID registration failure • Tire pressure warning valve and transmitter • Tire pressure warning antenna and receiver • Wire harness or connector • Tire pressure warning ECU

HINT:

If the IDs stored in the tire pressure warning ECU differ from the transmitter IDs, DTC C2126/26 is set. Check that the IDs in the ECU are the same as the transmitter IDs.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

It is necessary to register the transmitter IDs after replacing a tire pressure warning valve and transmitter and/or the tire pressure warning ECU INFO .

PROCEDURE

1.	IDENTIFY TRANSMITTER NOT RECEIVED
----	-----------------------------------

- (a) Set the tire pressure to the appropriate specified values INFO .
- (b) Turn the ignition switch off.
- (c) Connect the Techstream to the DLC3.
- (d) Turn the ignition switch ON.

(e) Turn the Techstream on.

(f) Check the values by referring to the table below. Enter the following menus: Chassis / Tire Pressure Monitor / Data List.

Tire Pressure Monitor:

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
ID1 Tire Inflation Pressure	ID1 tire pressure / min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID2 Tire Inflation Pressure	ID2 tire pressure / min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID3 Tire Inflation Pressure	ID3 tire pressure / min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID4 Tire Inflation Pressure	ID4 tire pressure / min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
ID5 Tire Inflation Pressure	ID5 tire pressure / min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)

HINT:

***1: It may take about 2 or 3 minutes until the values are displayed.**

- (g) Rapidly reduce the tire pressure for each wheel at least 40 kPa (0.4 kgf/cm², 5.8 psi) within 30 seconds.
- (h) Check the DATA LIST.

NOTICE:

- It takes about 2 or 3 minutes to display the updated tire pressure data.
 - When no "ID Tire Inflation Pressure" data has changed, reset the tire pressure to the appropriate specified value and rotate the tire 90 to 270°. Then rapidly release the tire pressure and recheck it.
 - Record the "ID Tire Inflation Pressure" data transmitter ID that corresponds to each tire.
- (i) After confirming that the "ID Tire Inflation Pressure" data for one tire (ID1 to ID5) has changed, repeat this procedure one by one. Identify the transmitter not received.

Result:

CONDITION	PROCEED TO
One or more of transmitters abnormal	A
All normal	B

B  **END**

A


2.	CHECK TRANSMITTER ID
-----------	-----------------------------

- (a) Turn the ignition switch off.

- (b) Connect the Techstream to the DLC3.
- (c) Turn the ignition switch ON.
- (d) Turn the Techstream on.
- (e) Check the values by referring to the table below. Enter the following menus: Chassis / Tire Pressure Monitor / Data List.

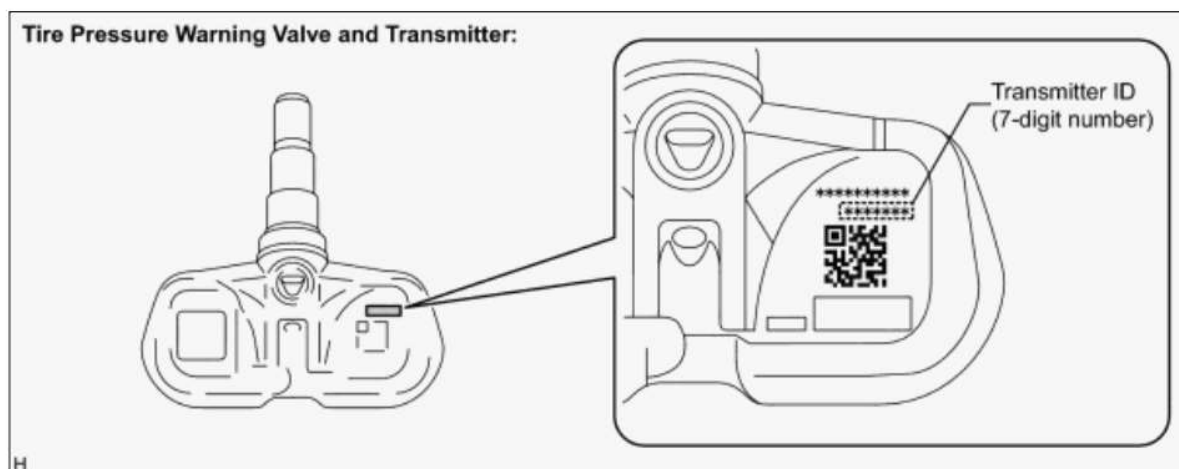
Tire Pressure Monitor:

TESTER DISPLAY	MEASUREMENT ITEM/DISPLAY	NORMAL CONDITION	DIAGNOSTIC NOTE
Registered ID1 Code	Registered ID1 code/ min.: 0 max.: FFFFFFFF*	The ID No. registered in the transmitter ID1 is displayed	-
Registered ID2 Code	Registered ID2 code/ min.: 0 max.: FFFFFFFF*	The ID No. registered in the transmitter ID2 is displayed	-
Registered ID3 Code	Registered ID3 code/ min.: 0 max.: FFFFFFFF*	The ID No. registered in the transmitter ID3 is displayed	-
Registered ID4 Code	Registered ID4 code/ min.: 0 max.: FFFFFFFF*	The ID No. registered in the transmitter ID4 is displayed	-
Registered ID5 Code	Registered ID5 code/ min.: 0 max.: FFFFFFFF*	The ID No. registered in the transmitter ID5 is displayed	-

HINT:

*: Displayed only when the ID No. is not registered.

- (f) Check the ID number on the identified transmitter by removing it from the tire and wheel.



- (g) Confirm that the ID number on the transmitter and recorded transmitter ID match.

Result:

RESULT	PROCEED TO
Match	A
Do not match	B

B **REGISTRATION OF TRANSMITTER ID**

A



3.	REPLACE TIRE PRESSURE WARNING VALVE AND TRANSMITTER
-----------	--

(a) Replace the tire pressure warning valve and transmitter  .

NEXT



4.	REGISTRATION OF TRANSMITTER ID
-----------	---------------------------------------

(a) Perform registration  .

NEXT



5.	CONFIRM TIRE INFLATION PRESSURE (DATA LIST)
-----------	--

- (a) Turn the ignition switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the ignition switch ON.
- (d) Turn the Techstream on.

(e) Check the values by referring to the table below. Enter the following menus: Chassis / Tire Pressure Monitor / Data List.

Tire Pressure Monitor:

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
ID1 Tire Inflation Pressure	ID1 tire pressure / min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID2 Tire Inflation Pressure	ID2 tire pressure / min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID3 Tire Inflation Pressure	ID3 tire pressure / min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID4 Tire Inflation Pressure	ID4 tire pressure / min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID5 Tire Inflation Pressure	ID5 tire pressure / min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure,

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
	pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)		data has not been received. (*1)

HINT:

- *1: It may take about 2 or 3 minutes until the values are displayed.
- When no "ID Tire Inflation Pressure" data has changed, reset the tire pressure to the appropriate specified value and rotate the tire 90 to 270°. Then rapidly release the tire pressure and recheck it.

Result:

RESULT	PROCEED TO
Tire pressure values are not displayed.	A
All tire pressure readings are equal to specified values.	B

B  **END**

A


6.	REPLACE TIRE PRESSURE WARNING ANTENNA AND RECEIVER
-----------	---

(a) Replace the tire pressure warning antenna and receiver  .

NEXT


7.	CONFIRM TIRE INFLATION PRESSURE (DATA LIST)
-----------	--

- (a) Turn the ignition switch off.
- (b) Connect the Techstream to the DLC3.

TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: C2126/2... <https://techinfo.toyota.com/t3Portal/document/rm/RM16B0U/xhtml/RM...>

(c) Turn the ignition switch ON.

(d) Turn the Techstream on.

(e) Check the values by referring to the table below. Enter the following menus: Chassis / Tire Pressure Monitor / Data List.

Tire Pressure Monitor:

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
ID1 Tire Inflation Pressure	ID1 tire pressure / min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID2 Tire Inflation Pressure	ID2 tire pressure / min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID3 Tire Inflation Pressure	ID3 tire pressure / min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID4 Tire Inflation Pressure	ID4 tire pressure / min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)

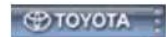
TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
ID5 Tire Inflation Pressure	ID5 tire pressure / min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)

HINT:

- *1: It may take about 2 or 3 minutes until the values are displayed.
- When no "ID Tire Inflation Pressure" data has changed, reset the tire pressure to the appropriate specified value and rotate the tire 90 to 270°. Then rapidly release the tire pressure and recheck it.

Result:

RESULT	PROCEED TO
All tire pressure readings are equal to specified values.	A
Tire pressure values are not displayed.	B

B ► REPLACE TIRE PRESSURE WARNING ECU**A ► END**

Last Modified: 9-7-2011	6.4 C	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000000XN405XX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: C2141/41-C2145/45: Transmitter ID1 Error (2011 RAV4)		

DTC	C2141/41	Transmitter ID1 Error
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DTC	C2142/42	Transmitter ID2 Error
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DTC	C2143/43	Transmitter ID3 Error
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DTC	C2144/44	Transmitter ID4 Error
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DTC	C2145/45	Transmitter ID5 Error
------------	-----------------	------------------------------

DESCRIPTION

The tire pressure warning valve and transmitters that are installed in the tire and wheel assemblies measure the air pressure of the tires. The measured values are transmitted to the tire pressure warning antenna and receiver on the body as radio waves and then sent to the tire pressure warning ECU. The ECU compares the measured air pressure values with the air pressure threshold. When the measured air pressure value is less than this threshold, the warning light in the combination meter comes on.

When the internal circuit of any tire pressure warning valve and transmitter is malfunctioning, one of these DTCs is stored.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
C2141/41 C2142/42 C2143/43 C2144/44 C2145/45	If an "ERROR" signal is received 3 times consecutively, the tire pressure warning valve and transmitter will be judged as defective and a DTC will be stored. This will happen in situations where the inflation pressure is outside the range -100 to 537.5 kPa (-1 to 5.4 kgf/cm ² , -14 to 78 psi), the temperature inside the tire is outside the specified range -40 to 120°C (-40 to 248°F), or an error occurs in the tire pressure warning valve and transmitter or the surrounding area.	• Tire pressure warning valve and transmitter • Tire pressure warning ECU

HINT:

It is necessary to perform the procedure to identify the tire pressure warning valve and transmitter that is malfunctioning because it cannot be identified by the output DTC.

INSPECTION PROCEDURE

NOTICE:
It is necessary to register the transmitter IDs after replacing the tire pressure warning valve and transmitter and/or the tire pressure warning ECU INFO .

PROCEDURE

1.	IDENTIFY TRANSMITTER CORRESPONDING TO DTC
----	---

- (a) Set the tire pressure of all the wheels to the specified value INFO .
- (b) Turn the ignition switch off.
- (c) Connect the Techstream to the DLC3.
- (d) Turn the ignition switch ON.
- (e) Turn the Techstream on.
- (f) Rapidly reduce the tire pressure for each wheel at least 40 kPa (0.4 kg/cm², 5.8 psi) within 30 seconds. If "ID Inflation Pressure" displayed on the tester (ID1 to ID5) does not change, the tire pressure warning valve and transmitter corresponding to the unchanged "ID Tire Inflation Pressure" data was the cause of the output DTC.

- HINT:**
- Identify the malfunctioning tire pressure warning valve and transmitter by repeatedly decreasing the tire pressure for each tire.
 - Record which "ID Tire Inflation Pressure" data (ID1 to ID5) corresponds to which tire.

Tire Pressure Monitor:

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
ID1 Tire Inflation Pressure	ID1 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
ID2 Tire Inflation Pressure	ID2 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID3 Tire Inflation Pressure	ID3 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID4 Tire Inflation Pressure	ID4 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID5 Tire Inflation Pressure	ID5 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)

HINT:

***1: It may take about 2 or 3 minutes until the values are displayed. If the values are not displayed after a few minutes, perform troubleshooting according to the inspection procedure for DTCs C2121/21 to C2125/25** INFO

(g) Check the Data List.

Result:

CONDITION	DETECTION CONDITION
One of "ID Tire Inflation Pressure" data (ID1 to ID5) changed.	Normal
"ID Tire Inflation Pressure" data did not change.	Transmitter corresponding to DTC

NOTICE:

- If "ID Tire Inflation Pressure" data has not changed, reset the tire pressure to the appropriate specified value and rotate the tire 90 to 270 degrees. Then forcibly transmit the transmitter ID and recheck it.
 - Record the transmitter ID and position of transmitters that are normal.
- (h) When the "ID Tire Inflation Pressure" data (ID1 to ID5) has changed, repeat this procedure to identify the tire pressure warning valve and transmitter that corresponds to the DTC.
- (i) When all of the "ID Tire Inflation Pressure" data (ID1 to ID5) have changed, identify the malfunctioning tire pressure warning valve and transmitter using recorded ID numbers and output DTC.

NEXT



2.	REPLACE TIRE PRESSURE WARNING VALVE AND TRANSMITTER
----	--

- (a) Replace the identified tire pressure warning valve and transmitter with a new one INFO .

HINT:

- Before installing a new tire pressure warning valve and transmitter, read and write down its transmitter ID.
- The IDs for the tire pressure warning valve and transmitter not to be replaced should be checked using the Techstream and recorded.

NEXT



3.	REGISTRATION OF TRANSMITTER ID
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- (a) Register the transmitter ID for all the wheels INFO .

NEXT

4.	READ VALUE USING TECHSTREAM (TIRE INFLATION PRESSURE)
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- (a) Turn the ignition switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the ignition switch ON.
- (d) Turn the Techstream on.
- (e) Check the values by referring to the table below. Enter the following menus: Chassis / Tire Pressure Monitor / Data List.

Tire Pressure Monitor:

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
ID1 Tire Inflation Pressure	ID1 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID2 Tire Inflation Pressure	ID2 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID3 Tire Inflation Pressure	ID3 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)

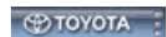
TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
	kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)		
ID4 Tire Inflation Pressure	ID4 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID5 Tire Inflation Pressure	ID5 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)

HINT:

- *1: It may take about 2 or 3 minutes until the values are displayed.
- When no "ID Tire Inflation Pressure" data has changed, reset the tire pressure to the appropriate specified valve and rotate the tire 90 to 270 degrees. Then rapidly release the tire pressure and recheck it.

Result:

CONDITION	PROCEED TO
All normal	A
All abnormal	B

B ► REPLACE TIRE PRESSURE WARNING ECU**A ► END**

Last Modified: 9-7-2011	6.4 C	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000000XN705WX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: C2165/65-C2169/69: Abnormal Temperature Inside ID1 Tire (2011 RAV4)		

DTC	C2165/65	Abnormal Temperature Inside ID1 Tire
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DTC	C2166/66	Abnormal Temperature Inside ID2 Tire
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DTC	C2167/67	Abnormal Temperature Inside ID3 Tire
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DTC	C2168/68	Abnormal Temperature Inside ID4 Tire
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DTC	C2169/69	Abnormal Temperature Inside ID5 Tire
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DESCRIPTION

Each tire pressure warning valve and transmitter measures the internal temperature of its tire as well as tire pressure, and transmits the information to the tire pressure warning ECU along with the transmitter ID. If the measured temperature is out of the specified range, the tire pressure warning ECU recognizes it as a malfunction, outputs DTCs, and the tire pressure warning light blinks for 1 minute and then remains on.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
C2165/65 C2166/66 C2167/67 C2168/68 C2169/69	Temperature inside the tire exceeds 119°C (246.2°F) more than a specified times.	• Tires • Tire pressure warning valve and transmitter • Tire pressure warning ECU

HINT:

It is necessary to perform the procedure to identify the tire pressure warning valve and transmitter that is malfunctioning because it cannot be identified by the output DTC.

INSPECTION PROCEDURE

NOTICE:

It is necessary to register the transmitter IDs after replacing the tire pressure warning valve and

transmitter and/or the tire pressure warning ECU INFO .

PROCEDURE

1.	CHECK TIRES
----	-------------

(a) Check the tires are not flat and there are no indication of air pressure drop.

OK:
Tires are normal.

HINT:
If a tire is damaged, the tire pressure warning valve and transmitter may also have been damaged at the same time.

NG ▶ REPLACE TIRE AND TIRE PRESSURE WARNING VALVE AND TRANSMITTER

OK
▼

2.	IDENTIFY TRANSMITTER CORRESPONDING TO DTC
----	---

- (a) Set the tire pressure of all the wheels to the specified value INFO .
- (b) Turn the ignition switch off.
- (c) Connect the Techstream to the DLC3.
- (d) Turn the ignition switch ON.
- (e) Turn the Techstream on.
- (f) Check the values by referring to the table below. Enter the following menus: Chassis / Tire Pressure Monitor / Data List.
- (g) Rapidly reduce the tire pressure for each wheel at least 40 kPa (0.4 kg/cm², 5.8 psi) within 30 seconds.
- (h) Check the Data List.

Tire Pressure Monitor:

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
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TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: C2165/... <https://techinfo.toyota.com/t3Portal/document/rm/RM16B0U/xhtml/RM...>

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
ID1 Tire Inflation Pressure	ID1 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID2 Tire Inflation Pressure	ID2 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID3 Tire Inflation Pressure	ID3 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID4 Tire Inflation Pressure	ID4 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID5 Tire Inflation Pressure	ID5 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
	pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)		

HINT:

***1: It may take about 2 or 3 minutes until the values are displayed. If the values are not displayed after a few minutes, perform troubleshooting according to the inspection procedure for DTCs C2121/21 to C2125/25** INFO

.

Result:

CONDITION	DETECTION CONDITION
One of "ID Tire Inflation Pressure" data (ID1 to ID5) changed.	Normal
No "ID Tire Inflation Pressure" data changed.	Transmitter corresponding to DTC

NOTICE:

- It takes about 2 or 3 minutes to display the updated data.
 - If "ID Tire Inflation Pressure" data has not changed, reset the tire pressure to the appropriate specified value and rotate the tire 90 to 270 degrees. Then forcibly transmit the transmitter ID and recheck it.
 - Record the transmitter ID and position that is normal condition.
- (i) When the "ID Tire Inflation Pressure" data (ID1 to ID5) has changed, repeat this procedure to identify the tire pressure warning valve and transmitter that corresponds to the DTC.
- (j) When all of the "ID Tire Inflation Pressure" data (ID1 to ID5) have changed, identify the malfunctioning tire pressure warning valve and transmitter based on the ID numbers and output DTC.

NEXT



3.	REPLACE TIRE PRESSURE WARNING VALVE AND TRANSMITTER
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- (a) Replace the identified tire pressure warning valve and transmitter with a new one INFO .

HINT:

- Before installing a new tire pressure warning valve and transmitter, read and write down its transmitter ID.
- The IDs for the tire pressure warning valve and transmitter not to be replaced should be checked using the Techstream and recorded.

NEXT

▼

4. CHECK REGISTRATION OF TRANSMITTER ID

(a) Register the transmitter ID for 5 wheels INFO.

NEXT

▼

5. READ VALUE USING TECHSTREAM (TIRE INFLATION PRESSURE)

- (a) Turn the ignition switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the ignition switch ON.
- (d) Turn the Techstream on.
- (e) Check the values by referring to the table below. Enter the following menus: Chassis / Tire Pressure Monitor / Data List.

Tire Pressure Monitor:

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
ID1 Tire Inflation Pressure	ID1 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID2 Tire Inflation Pressure	ID2 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² ,	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
	-14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)		
ID3 Tire Inflation Pressure	ID3 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID4 Tire Inflation Pressure	ID4 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID5 Tire Inflation Pressure	ID5 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)

HINT:

- *1: It may take about 2 or 3 minutes until the values are displayed.
- When no "ID Tire Inflation Pressure" data has changes, reset the tire pressure to the appropriate specified value and rotate the tire 90 to 270 degrees. Then rapidly release the tire pressure and recheck it.

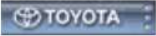
Result:

RESULT	PROCEED TO
All normal	A

RESULT	PROCEED TO
All abnormal	B

B ▶ REPLACE TIRE PRESSURE WARNING ECU

A ▶ END



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TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: C2171/71... <https://techinfo.toyota.com/t3Portal/document/rm/RM16B0U/xhtml/RM...>

Last Modified: 9-7-2011	6.4 C	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000002DZY03VX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: C2171/71: Transmitter ID not Registered (2011 RAV4)		

DTC	C2171/71	Transmitter ID not Registered
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DESCRIPTION

The IDs of each tire pressure warning valve and transmitters are registered to the tire pressure warning ECU. When the ECU detects that transmitter ID is not registered in the ECU, a DTC is output.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
C2171/71	Transmitter ID code is not registered. (When an ID code is unregistered for 3 minutes or more)	Tire pressure warning ECU

INSPECTION PROCEDURE

NOTICE:

It is necessary to register the transmitter IDs after replacing the tire pressure warning valve and transmitter and/or the tire pressure warning ECU [INFO](#) .

PROCEDURE

1.	CONFIRM REGISTRATION CONDITION (REGISTERED ID CODES)
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- (a) Set the tire pressure of all the wheels to the specified value [INFO](#) .
- (b) Turn the ignition switch off.
- (c) Connect the Techstream to the DLC3.
- (d) Turn the ignition switch on (IG).
- (e) Turn the Techstream on.
- (f) Check the values by referring to the table below. Enter the following menus: Chassis / Tire Pressure Monitor / Data List.

Tire Pressure Monitor:

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Registered ID1	Registered ID1 code/	The ID No. registered in the transmitter ID1	-

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Code	min.: 0 max.: FFFFFFFF (*1)	is displayed	
Registered ID2 Code	Registered ID2 code/ min.: 0 max.: FFFFFFFF (*1)	The ID No. registered in the transmitter ID2 is displayed	-
Registered ID3 Code	Registered ID3 code/ min.: 0 max.: FFFFFFFF (*1)	The ID No. registered in the transmitter ID3 is displayed	-
Registered ID4 Code	Registered ID4 code/ min.: 0 max.: FFFFFFFF (*1)	The ID No. registered in the transmitter ID4 is displayed	-
Registered ID5 Code	Registered ID5 code/ min.: 0 max.: FFFFFFFF (*1)	The ID No. registered in the transmitter ID5 is displayed	-

HINT:

***1: Displayed only when the ID No. is not registered.**

(g) Check the ID No. on the identified transmitter by removing it from the tire and wheel.

OK:

The registered transmitter ID codes are displayed on the Techstream display.

NG ► **PERFORM REGISTRATION (TRANSMITTER ID)**

OK ► **REPLACE TIRE PRESSURE WARNING ECU**

2. PERFORM REGISTRATION (TRANSMITTER ID)

(a) Register the transmitter IDs for all the wheels  .

NEXT

3. READ VALUE USING TECHSTREAM (TIRE INFLATION PRESSURE)

(a) Turn the ignition switch off.

(b) Connect the Techstream to the DLC3.

(c) Turn the ignition switch on (IG).

(d) Turn the Techstream on.

(e) Check the values by referring to the table below. Enter the following menus: Chassis / Tire Pressure Monitor / Data List.

Tire Pressure Monitor:

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
ID1 Tire Inflation Pressure	ID1 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID2 Tire Inflation Pressure	ID2 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID3 Tire Inflation Pressure	ID3 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)
ID4 Tire Inflation Pressure	ID4 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² ,	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)

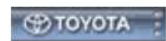
TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
	78 psi)		
ID5 Tire Inflation Pressure	ID5 tire inflation pressure/ min.: Absolute pressure/ 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure/ -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure/ 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure/ 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received. (*1)

HINT:

- *1: It may take about 2 or 3 minutes until the values are displayed.
- When no "ID Tire Inflation Pressure" data has changed, reset the tire pressure to the appropriate specified value and rotate the tire 90 to 270 degrees. Then rapidly release the tire pressure and recheck it.

Result:

CONDITION	PROCEED TO
All normal	A
All abnormal	B

B ► REPLACE TIRE PRESSURE WARNING ECU**A ► END**

TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: C2173/7... <https://techinfo.toyota.com/t3Portal/document/rm/RM16B0U/xhtml/RM...>

Last Modified: 9-7-2011	6.4 C	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000032FT021X
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: C2173/73: Vehicle Speed or Engine Speed Signal Malfunction (2011 RAV4)		

DTC	C2173/73	Vehicle Speed or Engine Speed Signal Malfunction
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DESCRIPTION

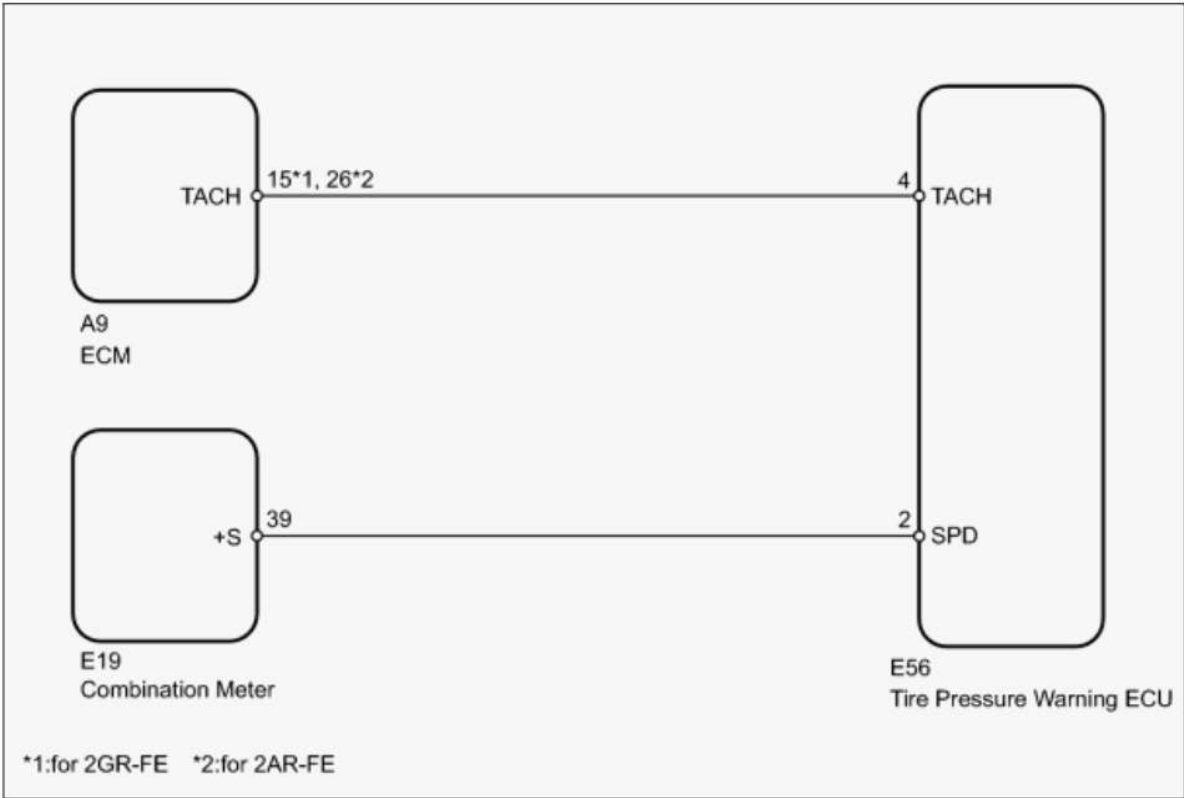
The tire pressure warning ECU receives a vehicle speed signal from the combination meter and an engine speed signal from the ECM. The tire pressure warning ECU uses these signals to detect DTCs C2121/21 to C2125/25 (No Signal from Transmitter in Main Mode).

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
C2173/73	Following condition (a) or (b) is met for a total of 15 minutes: (a) No engine speed signal while vehicle speed is 8 km/h (5 mph) or more (b) No vehicle speed signal while engine speed is a specified value	• Combination meter • ECM • Wire harness or connector • Tire pressure warning ECU

HINT:

This DTC is set at the same time as DTCs C2121/21 to C2125/25 are being set.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:
It is necessary to register the transmitter IDs after replacing a tire pressure warning valve and transmitter and/or the tire pressure warning ECU INFO .

PROCEDURE

1. PERFORM SIGNAL CHECK (VEHICLE SPEED SIGNAL AND ENGINE SPEED SIGNAL)

- (a) Enter the signal check mode in TEST MODE PROCEDURE INFO .
- (b) Drive the vehicle at 20 km/h (12 mph) or more for 10 seconds to erase DTCs C2191/91 and C2194/94.
- (c) Check the test mode DTCs.
- Result:

RESULT	PROCEED TO
DTCs C2191/91 and C2194/94 are erased	A
DTC C2191/91 is output	B
DTC C2194/94 is output	C

TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: C2173/7... <https://techinfo.toyota.com/t3Portal/document/rm/RM16B0U/xhtml/RM...>

HINT:

DTCs C2181/81 to C2184/84 (Transmitter ID not Received) are output at this time, but they are not related to this check.

B ► GO TO DTC C2191/91

C ► GO TO DTC C2194/94

A ► USE SIMULATION METHOD TO CHECK



Last Modified: 9-7-2011	6.4 C	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000026PN056X
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: C2176/76: Receiver Error (2011 RAV4)		

DTC	C2176/76	Receiver Error
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DESCRIPTION

When the tire pressure warning ECU is detected to internal data error, DTC C2176/76 is stored.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
C2176/76	Malfunction in the tire pressure warning ECU internal circuit	Tire pressure warning ECU

INSPECTION PROCEDURE

NOTICE:

It is necessary to register the transmitter IDs after replacing the tire pressure warning valve and transmitter and/or the tire pressure warning ECU .

PROCEDURE

1.	CHECK DTC OUTPUT (C2176/76)
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- (a) Clear the DTC .
- (b) Turn the ignition switch off.
- (c) Turn the ignition switch ON and check for DTCs .

OK:

DTC C2176/76 is not output.

NG  **REPLACE TIRE PRESSURE WARNING ECU**

OK  **END**



Last Modified: 9-7-2011	6.4 C	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000000XNA084X
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: C2191/91: Vehicle Speed Signal Error (Test Mode DTC) (2011 RAV4)		

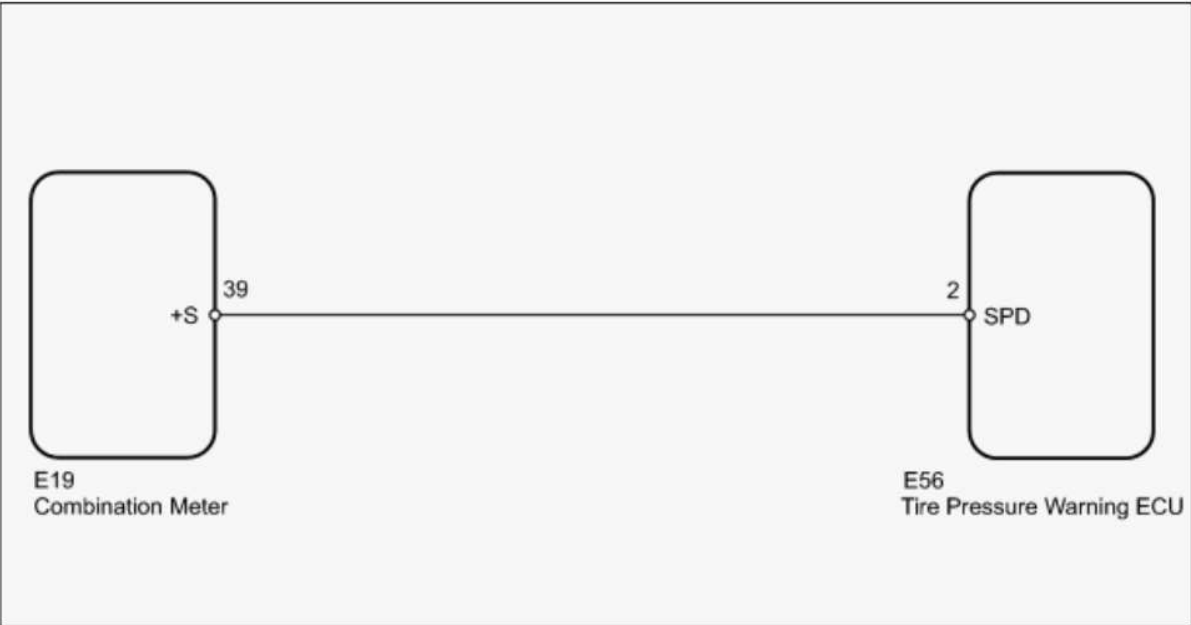
DTC	C2191/91	Vehicle Speed Signal Error (Test Mode DTC)
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DESCRIPTION

The tire pressure warning ECU receives a vehicle speed signal from the combination meter. This DTC is stored upon entering test mode, and cleared when a vehicle speed signal of 20 km/h (12 mph) is detected for 3 seconds or more. This DTC is output only in test mode.

DTC NO.	DTC DETECTING CONDITION	TROUBLE AREA
C2191/91	Vehicle speed signal circuit malfunction	- Vehicle speed sensor - Tire pressure warning ECU - Combination meter - Wire harness or connector

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

It is necessary to register the transmitter IDs after replacing the tire pressure warning valve and transmitter and/or the tire pressure warning ECU INFO .

PROCEDURE

1.

READ VALUE USING TECHSTREAM (VEHICLE SPEED)

- (a) Turn the ignition switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the ignition switch ON.
- (d) Turn the Techstream on.
- (e) Check that the values indicated on the Techstream and on the combination meter are the same.
Enter the following menus: Chassis / Tire Pressure Monitor / Data List.

Tire Pressure Monitor:

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Vehicle Speed	Vehicle speed/ min.: 0 km/h (0 mph) max.: 255 km/h (158 mph)	Actual vehicle speed	Speed indicated on combination meter

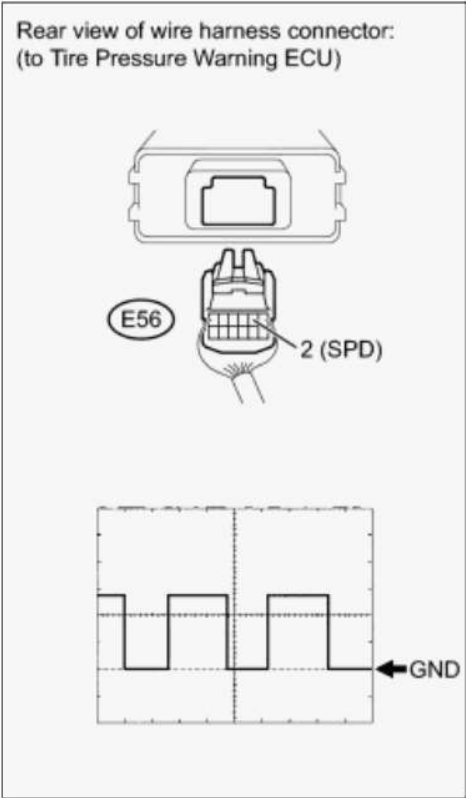
OK:
Vehicle speed indicated on the Techstream and combination meter are the same.

- NG▶INSPECT TIRE PRESSURE WARNING ECU
- OK▶USE SIMULATION METHOD TO CHECK

2.

INSPECT TIRE PRESSURE WARNING ECU

- (a) Disconnect the E56 ECU connector.



- (b) Jack up the vehicle.
 - (c) Shift the lever to the neutral position.
 - (d) Turn the ignition switch ON.
 - (e) Check the waveform of the ECU connector using an oscilloscope, while turning the wheel slowly.
- OK:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
E56-2 (SPD) - Body ground	Ignition switch on (IG)	Correct waveform is as shown

Tool Setting

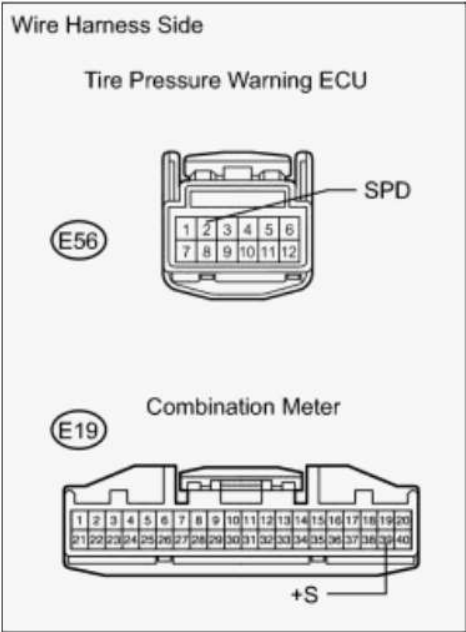
ITEM	CONTENTS
Tool Setting	5 V/DIV., 20 ms/DIV.
Vehicle Condition	Rotate driving wheel slowly

HINT:
The wavelength becomes shorter as the vehicle speed increases.

NG ► **CHECK HARNESS AND CONNECTOR (ECU - COMBINATION METER)**

OK▶ REPLACE TIRE PRESSURE WARNING ECU

3. CHECK HARNESS AND CONNECTOR (ECU - COMBINATION METER)



(a) Disconnect the E56 ECU connector.

- (b) Disconnect the E19 meter connector.
- (c) Measure the resistance according to the value(s) in the table below.
- Standard resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E56-2 (SPD) - E19-39 (+S)	Always	Below 1 Ω
E56-2 (SPD) - Body ground		10 kΩ or higher

NG▶ REPAIR OR REPLACE HARNESS OR CONNECTOR

OK▶ REPLACE COMBINATION METER



Last Modified: 9-7-2011	6.4 C	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000000XNA085X
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: C2194/94: Engine Speed Signal Error (Test Mode DTC) (2011 RAV4)		

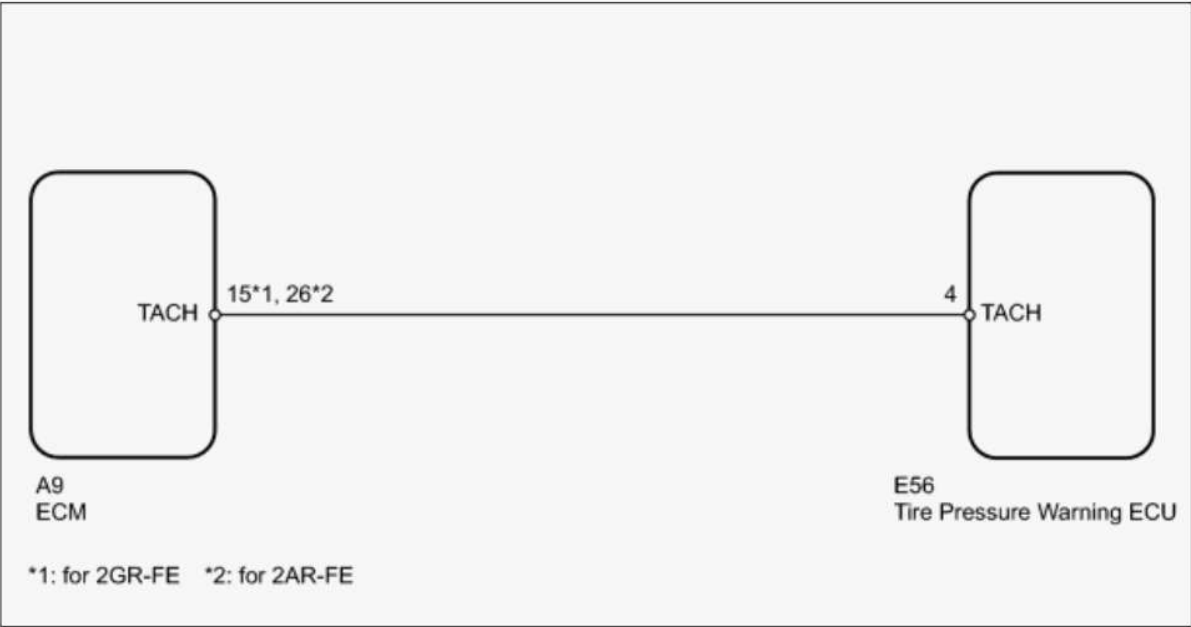
DTC	C2194/94	Engine Speed Signal Error (Test Mode DTC)
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DESCRIPTION

The tire pressure warning ECU receives an engine speed signal from the ECM. This DTC is stored upon entering test mode, and cleared when the engine speed signal of 1000 rpm is detected for 3 seconds or more. This DTC is output only in test mode.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
C2194/94	Engine speed signal circuit malfunction	• ECM • Wire harness or connector • Tire pressure warning ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:
It is necessary to register the transmitter IDs after replacing a tire pressure warning valve and transmitter and/or the tire pressure warning ECU [INFO](#) .

PROCEDURE

1.

READ VALUE USING TECHSTREAM (ENGINE SPEED)

- (a) Turn the ignition switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the ignition switch ON.
- (d) Turn the Techstream on.
- (e) Check that the values indicated on the Techstream and on the combination meter are the same.
Enter the following menus: Chassis / Tire Pressure Monitor / Data List.

Tire Pressure Monitor:

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Engine Speed	Engine speed/ min.: 0 rpm max.: 65535 rpm	Actual engine speed	Speed indicated on combination meter

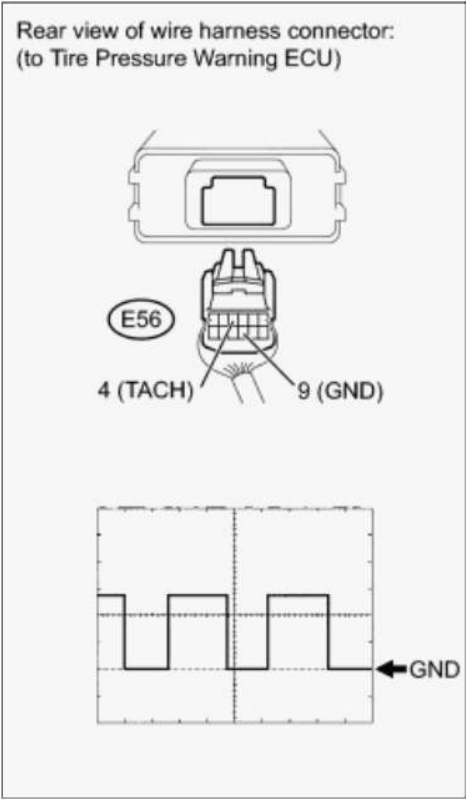
OK:
Engine speed indicated on the Techstream and on the combination meter are the same.

- NG▶INSPECT TIRE PRESSURE WARNING ECU (TACH SIGNAL)
- OK▶USE SIMULATION METHOD TO CHECK

2.

INSPECT TIRE PRESSURE WARNING ECU (TACH SIGNAL)

- (a) Disconnect the E56 ECU connector.



- (b) Start the engine.
- (c) Check the waveform of the ECU connector using an oscilloscope, while idling the engine.
- OK:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E56-4 (TACH) - E56-9 (GND)	Idling	Correct waveform is as shown

Tool Setting

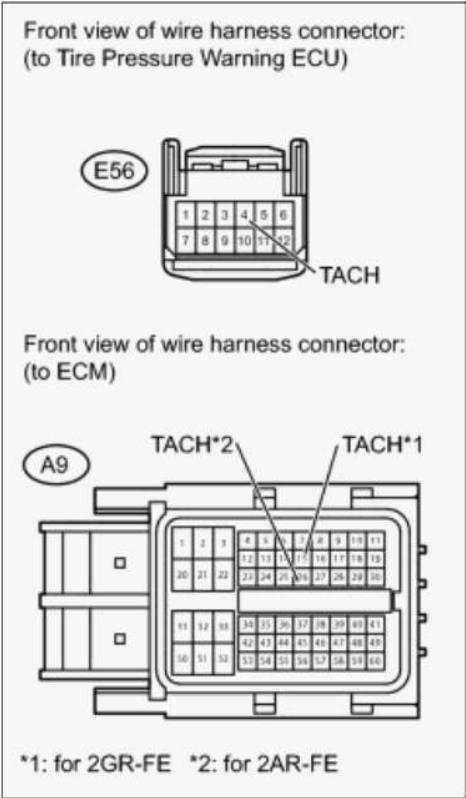
ITEM	CONTENTS
Tool Setting	5 V/DIV., 10 ms/DIV.

HINT:

The wavelength becomes shorter as the engine speed increases.

- NG▶CHECK HARNESS AND CONNECTOR (TIRE PRESSURE WARNING ECU - ECM)
- OK▶REPLACE TIRE PRESSURE WARNING ECU

3. CHECK HARNESS AND CONNECTOR (TIRE PRESSURE WARNING ECU - ECM)
(a) Disconnect the E56 ECU connector.



- (b) Disconnect the A9 ECM connector.
- (c) Measure the resistance according to the value(s) in the table below.
- (1) for 2GR-FE:

Standard resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E56-4 (TACH) - A9-15 (TACH)	Always	Below 1 Ω
E56-4 (TACH) - Body ground	Always	10 kΩ or higher

- (2) for 2AR-FE:

Standard resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E56-4 (TACH) - A9-26 (TACH)	Always	Below 1 Ω
E56-4 (TACH) - Body ground	Always	10 kΩ or higher

Result:

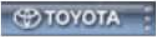
RESULT	PROCEED TO
NG	A
OK (for 2AR-FE)	B

RESULT	PROCEED TO
OK (for 2GR-FE)	C

B ► REPLACE ECM (for 2AR-FE)

C ► REPLACE ECM (for 2GR-FE)

A ► REPAIR OR REPLACE HARNESS OR CONNECTOR



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Last Modified: 9-7-2011	6.4 U	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000018L700GX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: DATA LIST / ACTIVE TEST (2011 RAV4)		

DATA LIST / ACTIVE TEST

1. READ DATA LIST

HINT:

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

NOTICE:

In the 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.

- Turn the ignition switch off.
- Connect the Techstream to the DLC3.
- Turn the ignition switch ON.
- Turn the Techstream on.
- Enter the following menus: Chassis / Tire Pressure Monitor / Data List.
- According to the display on the Techstream, read the "Data List".

Tire Pressure Monitor:

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Mode Status	Tire pressure warning system mode / Normal or Reg 2nd or Reg M or Test	Normal: Normal mode Reg 2nd: 2nd registration Reg M: Main registration Test: Test mode	-
Main Tire	Number of main tire IDs which can be registered / 4 or 5	4 or 5 should be displayed	-
2nd Tire	-	-	-
Registered Main Tire	Number of main tire IDs to be registered / 0 or 1 or 2 or 3 or 4 or 5	0 to 5 should be displayed	-
Registered 2nd Tire	-	-	-
Select Switch	-	Main	-

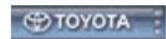
TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Vehicle Speed	Vehicle speed reading / min.: 0 km/h (0 mph), max.: 255 km/h (158 mph)	Actual vehicle speed	Speed indicated on the combination meter
Registered ID1 Code	Registered ID1 code / min.: 0, max.: FFFFFFFF	The ID No. registered in transmitter ID1 is displayed	-
Registered ID2 Code	Registered ID2 code / min.: 0, max.: FFFFFFFF	The ID No. registered in transmitter ID2 is displayed	-
Registered ID3 Code	Registered ID3 code / min.: 0, max.: FFFFFFFF	The ID No. registered in transmitter ID3 is displayed	-
Registered ID4 Code	Registered ID4 code / min.: 0, max.: FFFFFFFF	The ID No. registered in transmitter ID4 is displayed	-
Registered ID5 Code	Registered ID5 code / min.: 0, max.: FFFFFFFF	The ID No. registered in transmitter ID5 is displayed	-
ID Transmission Status	ID transmission status / Finish or Now	Finish or Now	-
Initialization Switch	-	OFF	-
ID1 Tire Inflation Pressure	ID1 tire pressure / min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received.
ID2 Tire Inflation Pressure	ID2 tire pressure / min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received.

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
	psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)		
ID3 Tire Inflation Pressure	ID3 tire pressure / min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received.
ID4 Tire Inflation Pressure	ID4 tire pressure / min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received.
ID5 Tire Inflation Pressure	ID5 tire pressure / min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Actual tire inflation pressure	If 0 kPa (0 kgf/cm ² , 0 psi) is displayed for absolute pressure or -100 kPa (-1 kgf/cm ² , -14 psi) is displayed for relative pressure, data has not been received.
ID1 Temperature in Tire	ID1 temperature in tire / min.: -40°C (-40°F) max.: 215°C (419°F)	Actual tire temperature	-
ID2 Temperature in Tire	ID2 temperature in tire / min.: -40°C (-40°F) max.: 215°C (419°F)	Actual tire temperature	-
ID3 Temperature in Tire	ID3 temperature in tire / min.: -40°C (-40°F) max.: 215°C (419°F)	Actual tire temperature	-
ID4 Temperature in Tire	ID4 temperature in tire / min.: -40°C (-40°F) max.: 215°C (419°F)	Actual tire temperature	-

TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: DATA ... <https://techinfo.toyota.com/t3Portal/document/rm/RM16B0U/xhtml/RM...>

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
ID5 Temperature in Tire	ID5 temperature in tire / min.: -40°C (-40°F) max.: 215°C (419°F)	Actual tire temperature	-
ID1 Battery Voltage	ID1 battery voltage / OVER or LESS	OVER	-
ID2 Battery Voltage	ID2 battery voltage / OVER or LESS	OVER	-
ID3 Battery Voltage	ID3 battery voltage / OVER or LESS	OVER	-
ID4 Battery Voltage	ID4 battery voltage / OVER or LESS	OVER	-
ID5 Battery Voltage	ID5 battery voltage / OVER or LESS	OVER	-
Select Switch Info	-	WITHOUT	-
Initialization Switch Info	-	WITHOUT	-
ID1 Initial Threshold of Low-pressure	ID1 initial threshold of low-pressure/ min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Tire pressure after initialization	-
ID2 Initial Threshold of Low-pressure	ID2 initial threshold of low-pressure/ min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Tire pressure after initialization	-
ID3 Initial Threshold of Low-pressure	ID3 initial threshold of low-pressure/ min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1	Tire pressure after initialization	-

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
	kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)		
ID4 Initial Threshold of Low-pressure	ID4 initial threshold of low-pressure/ min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Tire pressure after initialization	-
ID5 Initial Threshold of Low-pressure	ID5 initial threshold of low-pressure/ min.: Absolute pressure / 0.0 kPa (0 kgf/cm ² , 0 psi), Relative pressure / -100.0 kPa (-1 kgf/cm ² , -14 psi) max.: Absolute pressure / 637.5 kPa (6.5 kgf/cm ² , 92 psi), Relative pressure / 537.5 kPa (5.4 kgf/cm ² , 78 psi)	Tire pressure after initialization	-
Engine Speed	Engine speed reading/ min.: 0 rpm max.: 65535 rpm	Actual engine speed	Engine speed indicated on the combination meter
Number of DTC	Number of DTC recorded/ min.: 0 max.: 255	0	-

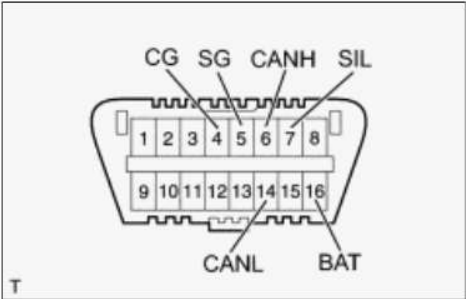


Last Modified: 9-7-2011	6.4 D	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000018L400HX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: DIAGNOSIS SYSTEM (2011 RAV4)		

DIAGNOSIS SYSTEM

1. CHECK DLC3

The tire pressure warning ECU uses ISO 15765-4 for communication. The terminal arrangement of the DLC3 complies with SAE J1962 and matches the ISO 15765-4 format.



SYMBOLS (TERMINALS NO.)	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
SIL (7) - SG (5)	Bus '+' line	During transmission	Pulse generation
CG (4) - Body ground	Chassis ground	Always	Below 1 Ω
SG (5) - Body ground	Signal ground	Always	Below 1 Ω
BAT (16) - Body ground	Battery ground	Always	11 to 14 V
CANH (6) - CANL (14)	HIGH-level CAN bus line	Ignition switch off	54 to 69 Ω
CANH (6) - Body ground	HIGH-level CAN bus line	Ignition switch off	1 MΩ or higher
CANH (6) - CG (4)	HIGH-level CAN bus line	Ignition switch off	1 MΩ or higher
CANL (14) - Body ground	LOW-level CAN bus line	Ignition switch off	1 MΩ or higher
CANH (6) - CG (4)	LOW-level CAN bus line	Ignition switch off	1 MΩ or higher

If the result is not as specified, the DLC3 may have a malfunction. Repair or replace the harness and connector.

HINT:

Connect the cable of the Techstream to the DLC3, turn the ignition switch ON and attempt to use the Techstream. If the display indicates that a communication error has occurred, there is a problem with the vehicle or with the Techstream.

- If communication is normal when the Techstream is connected to another vehicle, inspect the DLC3 on the original vehicle.

- If communication is still not possible when the tool is connected to another vehicle, the problem is probably in the Techstream itself. So consult the Service Department listed in the Techstream instruction manual.

2. DIAGNOSIS SYSTEM

(a) Warning light



- (1) When there is a problem with the tire pressure warning system, the tire pressure warning light blinks at 0.5 second intervals, and comes on after 1 minute.

NOTICE:
When the malfunction has been corrected, the tire pressure warning light does not turn on.

(b) DTCs (Normal mode)

- (1) DTCs are memorized in the tire pressure warning ECU and read by the blinks of the tire pressure warning light or by using the Techstream [INFO](#) .

(c) Test mode

- (1) By switching from normal mode into test mode (input signal check), you can inspect the tire pressure antenna and receiver, each tire pressure warning valve and transmitter, engine speed signal and vehicle speed sensor [INFO](#) .

3. CHECK TIRE PRESSURE WARNING LIGHT



(a) Turn the ignition switch ON.

(b) Check that the tire pressure warning light turns on for 3 seconds.

If the warning check result is not normal, proceed to the troubleshooting for the tire pressure warning light circuit.

TROUBLE AREA	SEE PAGE
Tire pressure warning light circuit	INFO

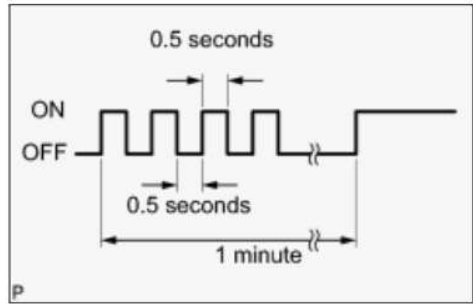
4. TIRE PRESSURE WARNING LIGHT CHART

HINT:

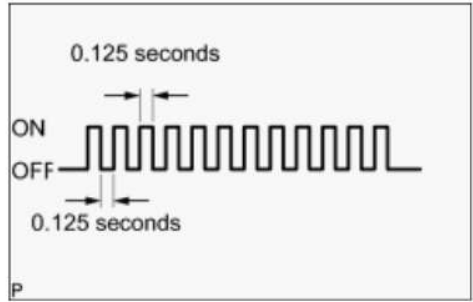
The table below indicates the state of the tire pressure warning light after the ignition switch is turned ON.

	IMMEDIATELY AFTER TURNING THE IGNITION SWITCH ON	ALWAYS					
		WARNING LIGHT OUTPUT PATTERN					
		GOES OFF	COMES ON	BLINKS FOR 1 MINUTE AND THEN ILLUMINATES (*1)	BLINKS (*2)	BLINKS (*3)	OUTPUT DTC
Normal	○	○	-	-	-	-	-
Low tire pressure	○	-	○	-	-	-	-
System fail	○	-	-	○	-	-	-
Test mode	○	-	-	-	○	-	-
ECU connector poorly connected	○	-	-	○ (*4)	-	-	-
TC ground (DTC is output)	○	-	-	-	-	-	○
TC ground (DTC is not output)	○	-	-	-	-	○	-

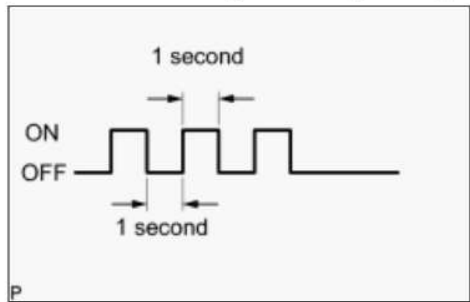
*1: Comes on and goes off repeatedly at 0.5 second intervals, and comes on after 1 minute.



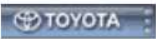
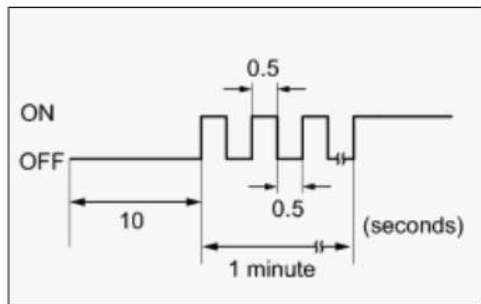
*2: Comes on and goes off repeatedly at 0.125 second intervals.



*3: Comes on and goes off repeatedly at 0.25 second intervals.



*4: When determining if there is a short circuit (10 seconds), the light is off. Then it blinks at 0.5 second intervals, and comes on after 1 minute.



Last Modified: 9-7-2011	6.4 S	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000018KX00BX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: DIAGNOSTIC TROUBLE CODE CHART (2011 RAV4)		

DIAGNOSTIC TROUBLE CODE CHART

HINT:

If a trouble code is displayed during the DTC check, check the circuit listed for that code in the table below. Then proceed to the appropriate page.

Tire Pressure Warning System

DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
C2111/11	Transmitter ID1 Operation Stop	- Tire pressure warning valve and transmitter - Tire pressure warning ECU	INFO
C2112/12	Transmitter ID2 Operation Stop	- Tire pressure warning valve and transmitter - Tire pressure warning ECU	INFO
C2113/13	Transmitter ID3 Operation Stop	- Tire pressure warning valve and transmitter - Tire pressure warning ECU	INFO
C2114/14	Transmitter ID4 Operation Stop	- Tire pressure warning valve and transmitter - Tire pressure warning ECU	INFO
C2115/15	Transmitter ID5 Operation Stop	- Tire pressure warning valve and transmitter - Tire pressure warning ECU	INFO
C2121/21	No Signal from Transmitter ID1	- Tire pressure warning valve and transmitter - Tire pressure antenna and receiver - Tire pressure warning ECU - Wire harness or connector	INFO
C2122/22	No Signal from Transmitter ID2	- Tire pressure warning valve and transmitter - Tire pressure antenna and receiver - Tire pressure warning ECU - Wire harness or connector	INFO
C2123/23	No Signal from Transmitter ID3	- Tire pressure warning valve and transmitter - Tire pressure antenna and receiver - Tire pressure warning ECU - Wire harness or connector	INFO

DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
C2124/24	No Signal from Transmitter ID4	- Tire pressure warning valve and transmitter - Tire pressure antenna and receiver - Tire pressure warning ECU - Wire harness or connector	INFO
C2125/25	No Signal from Transmitter ID5	- Tire pressure warning valve and transmitter - Tire pressure antenna and receiver - Tire pressure warning ECU - Wire harness or connector	INFO
C2126/26	Transmitter ID not Received in Main Mode	- ID registration failure - Tire pressure warning valve and transmitter - Tire pressure warning antenna and receiver - Wire harness or connector - Tire pressure warning ECU	INFO
C2141/41	Transmitter ID1 Error	- Tire pressure warning valve and transmitter - Tire pressure warning ECU	INFO
C2142/42	Transmitter ID2 Error	- Tire pressure warning valve and transmitter - Tire pressure warning ECU	INFO
C2143/43	Transmitter ID3 Error	- Tire pressure warning valve and transmitter - Tire pressure warning ECU	INFO
C2144/44	Transmitter ID4 Error	- Tire pressure warning valve and transmitter - Tire pressure warning ECU	INFO
C2145/45	Transmitter ID5 Error	- Tire pressure warning valve and transmitter - Tire pressure warning ECU	INFO
C2165/65	Abnormal Temperature Inside ID1 Tire	- Tire - Tire pressure warning valve and transmitter - Tire pressure warning ECU	INFO
C2166/66	Abnormal Temperature Inside ID2 Tire	- Tire - Tire pressure warning valve and transmitter - Tire pressure warning ECU	INFO
C2167/67	Abnormal Temperature Inside ID3 Tire	- Tire - Tire pressure warning valve and	INFO

DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
		transmitter - Tire pressure warning ECU	
C2168/68	Abnormal Temperature Inside ID4 Tire	- Tire - Tire pressure warning valve and transmitter - Tire pressure warning ECU	INFO
C2169/69	Abnormal Temperature Inside ID5 Tire	- Tire - Tire pressure warning valve and transmitter - Tire pressure warning ECU	INFO
C2171/71	Transmitter ID not Registered	- Tire pressure warning ECU	INFO
C2173/73	Vehicle Speed or Engine Speed Signal Malfunction	- Combination meter - ECM - Wire harness or connector - Tire pressure warning ECU	INFO
C2176/76	Receiver Error	- Tire pressure warning ECU	INFO
C2181/81	Transmitter ID1 not Received (Test Mode DTC)	- Tire pressure warning valve and transmitter - Tire pressure antenna and receiver - Tire pressure warning ECU - Wire harness or connector	INFO
C2182/82	Transmitter ID2 not Received (Test Mode DTC)	- Tire pressure warning valve and transmitter - Tire pressure antenna and receiver - Tire pressure warning ECU - Wire harness or connector	INFO
C2183/83	Transmitter ID3 not Received (Test Mode DTC)	- Tire pressure warning valve and transmitter - Tire pressure antenna and receiver - Tire pressure warning ECU - Wire harness or connector	INFO
C2184/84	Transmitter ID4 not Received (Test Mode DTC)	- Tire pressure warning valve and transmitter - Tire pressure antenna and receiver - Tire pressure warning ECU - Wire harness or connector	INFO
C2185/85	Transmitter ID5 not Received (Test Mode DTC)	- Tire pressure warning valve and transmitter - Tire pressure antenna and receiver - Tire pressure warning ECU - Wire harness or connector	INFO

DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
C2191/91	Vehicle Speed Signal Error (Test Mode DTC)	- Vehicle speed sensor - Tire pressure warning ECU - Combination meter - Wire harness or connector	INFO
C2194/94	Engine Speed Signal Error (Test Mode DTC)	- ECM - Wire harness or connector - Tire pressure warning ECU	INFO



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Last Modified: 9-7-2011	6.4 D	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000018L500GX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: DTC CHECK / CLEAR (2011 RAV4)		

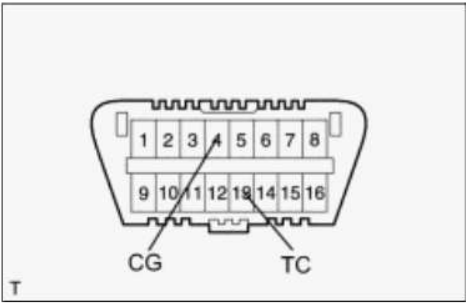
DTC CHECK / CLEAR

1. DTC CHECK (USING TECHSTREAM)

- (a) Turn the ignition switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the ignition switch ON.
- (d) Enter the following menus: Chassis / Tire Pressure Monitor / Trouble Codes.
- (e) Read the DTCs following the prompts on the Techstream screen.

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

2. CHECK DTC (USING SST CHECK WIRE)



- (a) Using SST, connect terminals 13 (TC) and 4 (CG) of the DLC3.
SST: 09843-18040

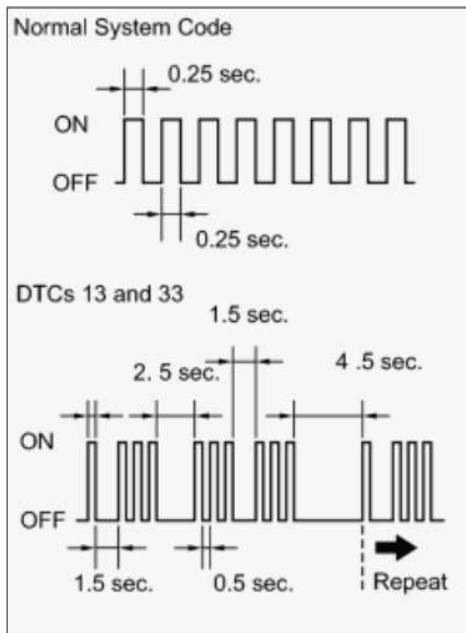
- (b) Turn the ignition switch ON.

- (c) Read and record any DTCs from the tire pressure warning light on the combination meter. Refer to the illustration for examples of a normal system code and DTCs 13 and 33.

- HINT:**
- If the tire pressure warning light does not blink to indicate any DTCs or the normal system code, inspect the tire pressure warning light circuit or 13 (TC) and 4 (CG) terminal circuits.

TROUBLE AREA	SEE PROCEDURE
Tire pressure warning light circuit	INFO
TC and CG terminal circuit	INFO

- If 2 or more malfunctions are indicated at the same time, the lowest numbered DTC is displayed first.



(d) Refer to the Diagnostic Trouble Code Chart for DTC information [INFO](#) .

(e) After completing the check, turn the ignition switch off and remove SST from the DLC3.

3. CLEAR DTC (USING TECHSTREAM)

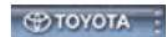
HINT:

After repairing the malfunctions, clear the DTCs.

- Turn the ignition switch off.
- Connect the Techstream to the DLC3.
- Turn the ignition switch ON.
- Enter the following menus: Chassis / Tire Pressure Monitor / Trouble Codes.
- Erase the DTCs following the prompts on the Techstream screen.

HINT:

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



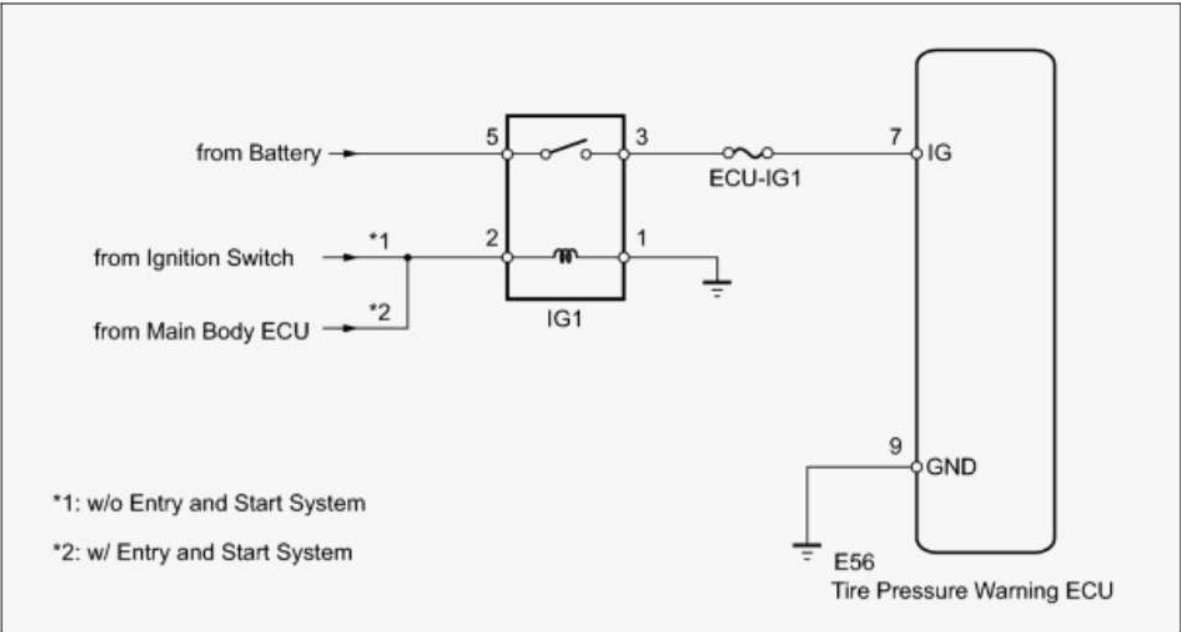
Last Modified: 9-7-2011	6.4 J	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000018LV00UX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: ECU Power Source Circuit (2011 RAV4)		

ECU Power Source Circuit

DESCRIPTION

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

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:
It is necessary to register the transmitter IDs after replacing a tire pressure warning valve and transmitter and/or the tire pressure warning ECU [INFO](#) .

PROCEDURE

1.	INSPECT FUSE (ECU-IG1)
----	------------------------

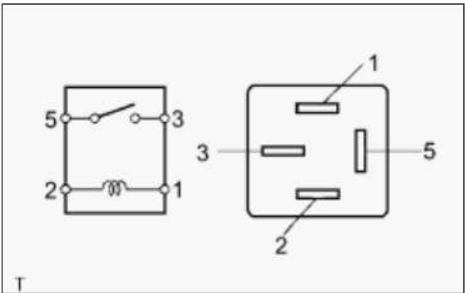
- (a) Remove the ECU-IG1 fuse from the instrument panel junction block.
- (b) Measure the resistance of the fuse.
Standard resistance:

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 of the relay.
Standard resistance:

TESTER CONNECTION	SPECIFIED CONDITION
3 - 5	10 kΩ 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)

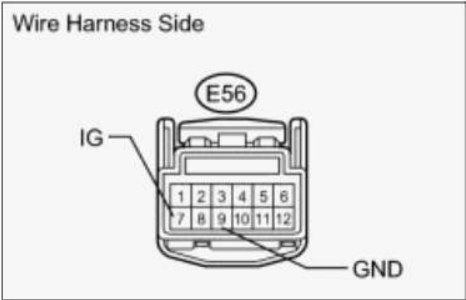
- (a) Disconnect the E56 ECU connector.
- (b) Measure the voltage of the wire harness side connector.

Standard voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
E56-7 (IG) - Body ground	Ignition switch ON	10 to 14 V
	Ignition switch off	Below 1 V

(c) Measure the resistance of the wire harness side connector.

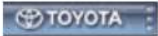
Standard resistance:



TESTER CONNECTION	SPECIFIED CONDITION
E56-9 (GND) - Body ground	Below 1 Ω

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK  **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**



Last Modified: 9-7-2011	6.4 D	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000001BBD00FX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: HOW TO PROCEED WITH TROUBLESHOOTING (2011 RAV4)		

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- Use these procedures to troubleshoot the tire pressure warning system.
- *: Use the Techstream.

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

NEXT



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

Standard voltage:
11 to 14 V

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

NEXT



3.	CUSTOMER PROBLEM ANALYSIS
----	---------------------------

(a) Interview the customer to confirm the trouble.

HINT:

It is important to collect as much specific information as possible from the customer to allow for a quick repair.

NEXT



4.

ADJUST TIRE PRESSURE*

- (a) Turn the ignition switch off.
- (b) Connect the Techstream to the DLC3.
- (c) Turn the ignition switch ON.
- (d) Turn the Techstream on.
- (e) Read the "ID Tire Inflation Pressure" values. Enter the following menus: Chassis / Tire Pressure Monitor / Data List.
- (f) Set the pressure of all the wheels to the specified value INFO .
- (g) Check the Data List INFO .

HINT:

- It take about 2 or 3 minutes to display the updated tire pressure data.
- If the problem is that the tire pressure decreases, wait until all of the tire pressure data is received by the ECU. If the data is received, the tire pressure warning light will goes off.

Result:

RESULT	PROCEED TO
Tire pressure warning light remains on.	A
Tire pressure warning light goes off.	B

B Go to step 9



5.

CHECK FOR DTC*

- (a) Check for DTCs INFO .
- (b) Clear the DTCs INFO .

(c) Recheck for DTCs INFO .

Result:

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

B  Go to step 7

A


6.

DTC CHART

(a) Refer to the DIAGNOSTIC TROUBLE CODE CHART INFO .

NEXT  Go to step 8

7.

PROBLEM SYMPTOMS TABLE

(a) Refer to the PROBLEM SYMPTOMS TABLE INFO .

NEXT


8.

CIRCUIT INSPECTION*

(a) Refer to the ELECTRONIC CIRCUIT INSPECTION PROCEDURE INFO .

NEXT


9.	REPAIR OR REPLACE
-----------	--------------------------

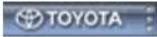
(a) Repair or replace parts based on the diagnosis result.

NEXT
▼

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

(a) Check the Data List to confirm that the tire inflation pressure has been received  .

NEXT ► **END**

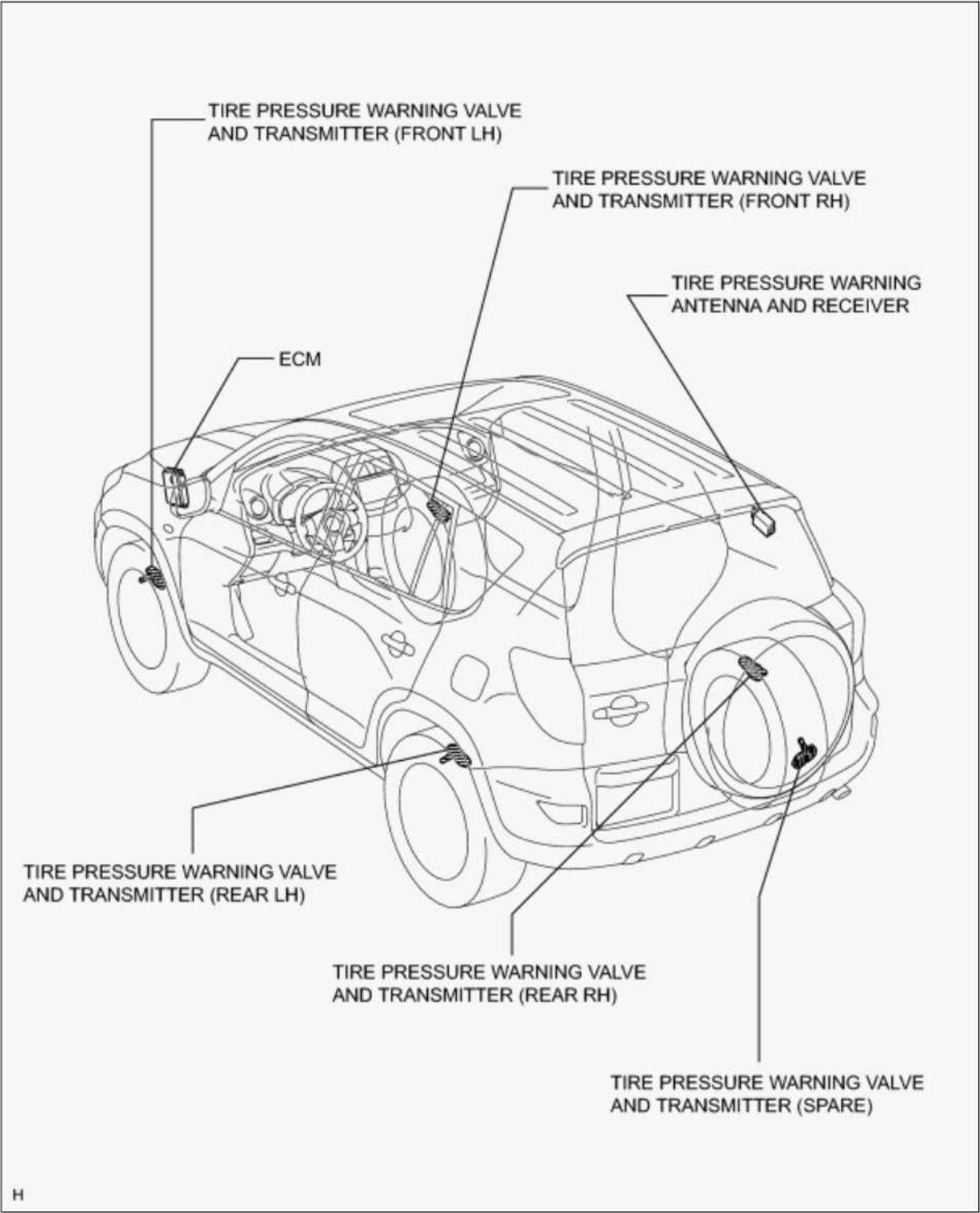


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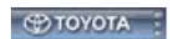
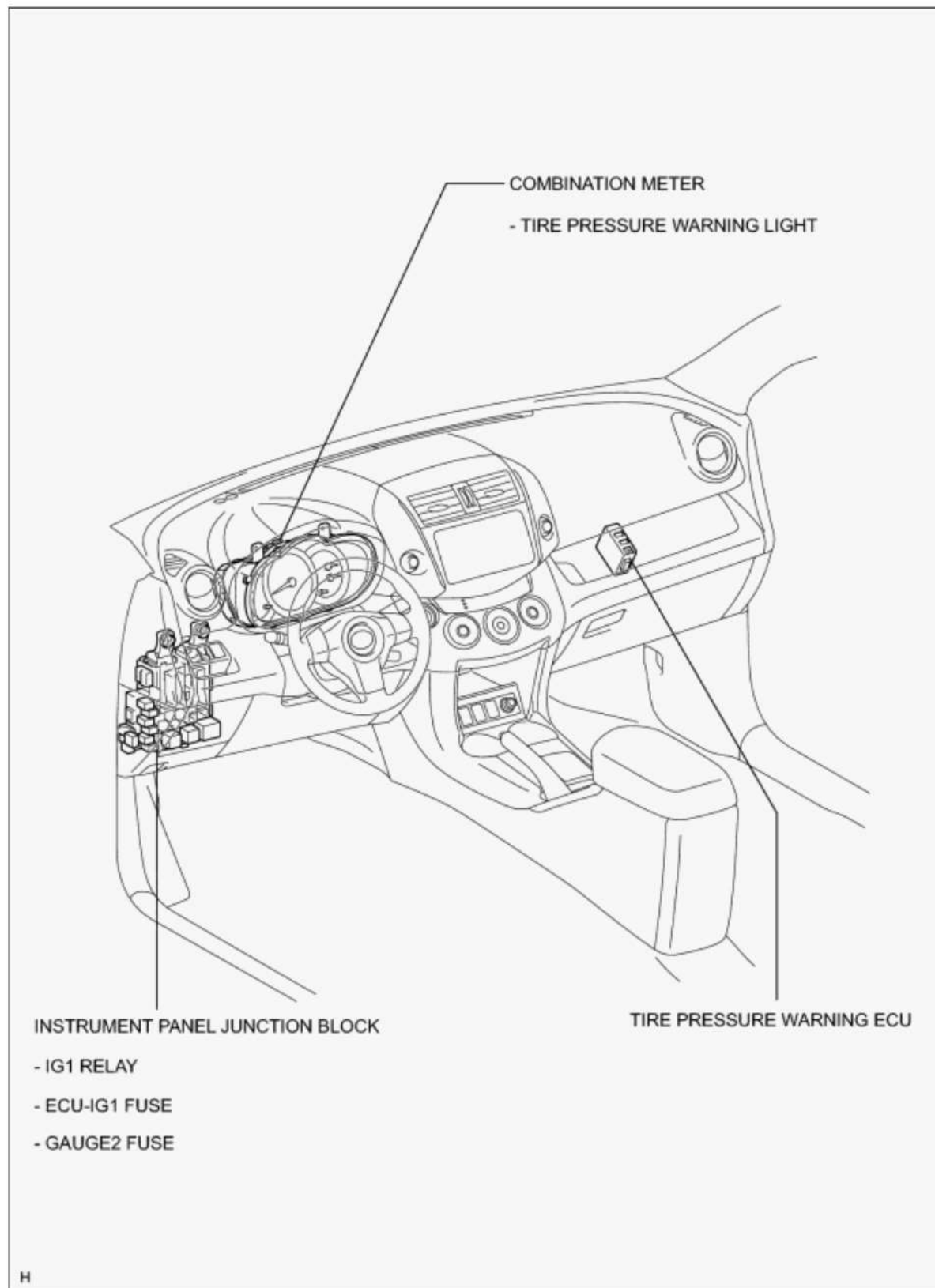
Last Modified: 9-7-2011	6.4 R	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000001CFK008X
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: PARTS LOCATION (2011 RAV4)		

PARTS LOCATION

ILLUSTRATION



ILLUSTRATION



Last Modified: 9-7-2011	6.4 L	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000018KW00FX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: PRECAUTION (2011 RAV4)		

PRECAUTION

1. IGNITION SWITCH EXPRESSION

HINT:

The type of ignition switch used on this model differs according to the specifications of the vehicle. The expressions listed in the table below are used in this section.

EXPRESSION	IGNITION SWITCH (POSITION)	ENGINE SWITCH (CONDITION)
Ignition Switch off	Off	Off
Ignition Switch ON	ON	On (IG)
Ignition Switch ACC	ACC	On (ACC)
Engine Start	START	Start

2. TIRE PRESSURE WARNING SYSTEM PRECAUTION



- (a) When the tire pressure warning light comes on, immediately check the tire pressure of the tire and adjust it to the specified value. (The tire pressure warning light will come on after blinking for 1minute if there is an open in the tire pressure warning light circuit.)

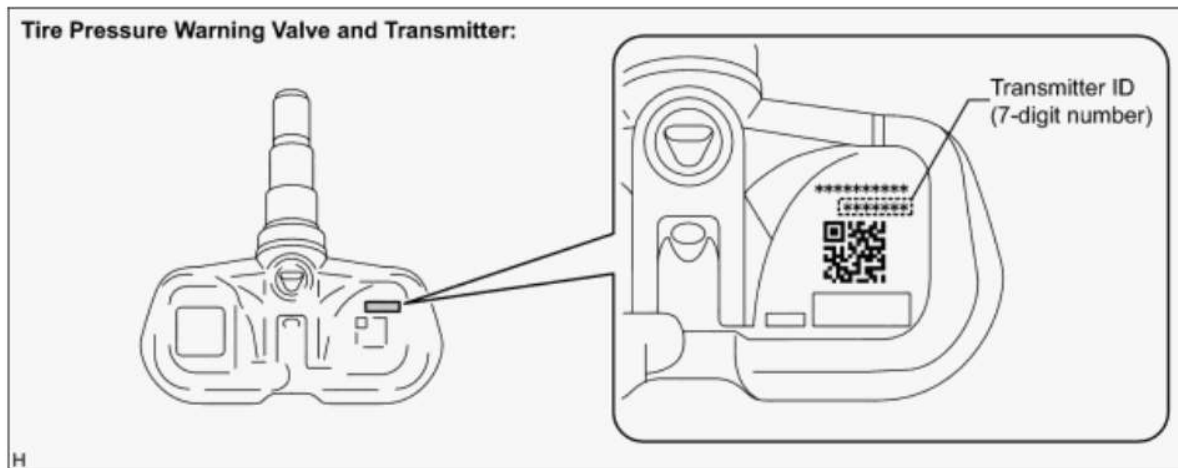
NOTICE:

When adjusting the tire inflation pressure, adjust the inflation of all the tires (including the spare tire) because this system monitors the pressure of all tires.

Standard pressure:

220 kPa (2.2 kgf/cm², 32 psi)

- (b) When the tire pressure warning light comes on after blinking for 1 minute, there is a malfunction in the system. Check for DTCs.
- (c) It is necessary to register the transmitter ID in the tire pressure warning ECU after replacing a tire pressure warning valve and transmitter and/or tire pressure warning ECU .
- (d) When replacing the tire pressure warning ECU:
 - (1) Using the Data List, read the transmitter IDs registered in the ECU and make a note of them before removing the tire pressure warning ECU.
 - (2) Register the transmitter IDs after installing a new tire pressure warning ECU.
- (e) When replacing a tire pressure warning valve and transmitter:
 - (1) Take a note of the 7-digit number (transmitter ID) written on the new tire pressure warning valve and transmitter when replacing the old one. Register the transmitter IDs in the tire pressure warning ECU after replacing the tire pressure warning valve and transmitter and installing the tires and wheels on the vehicle.

**NOTICE:**

The transmitter ID is written on the tire pressure warning valve and transmitter. It will be unable to be read after installing the tire onto the wheel. Therefore, take a note of the transmitter ID before installing the tire pressure warning valve and transmitter.

(f) When replacing the tire pressure warning ECU and the tire pressure warning valve and transmitters:

It is necessary to perform the registration [INFO](#) .

(g) Precautions about the tire pressure:

- The tire pressure decreases naturally.
- In winter, tire pressure may decrease due to low ambient temperature (tire pressure decreases by approximately 10 kPa (0.1 kgf/cm², 1.45 psi) for every 10°C (50°F) drop in the ambient temperature).

Therefore, the tire pressure warning system is more likely to operate if the tire pressure is not adjusted appropriately.

If the daily temperature variation is large, pressurize the tires high so that the tire pressure is suitable under cold conditions. As a result, incorrect tire pressure warning operation should decrease.

3. IN CASE OF TIRE AND WHEEL REPLACEMENT

(a) When tires and wheels are replaced, always be sure to register the transmitter IDs correctly.

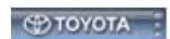
4. FAIL-SAFE FUNCTION

(a) When a system malfunction occurs in the tire pressure warning system, the tire pressure warning light comes on after blinking for 1 minute and informs the driver of the system failure.

(b) The result of this diagnosis is stored in the tire pressure warning ECU.

5. CHECK TIRE PRESSURE AFTER REPAIRS

(a) After repairs, confirm that the actual tire pressures are displayed in the Data List [INFO](#) .



Last Modified: 9-7-2011	6.4 T	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000018L000KX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: PROBLEM SYMPTOMS TABLE (2011 RAV4)		

PROBLEM SYMPTOMS TABLE

HINT:

- Use the table below to help determine the cause of the problem symptom. The potential causes of the symptoms are listed in order of probability in the "Suspected area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.
- Inspect the fuses and relays related to this system before inspecting the suspected areas below.

Tire pressure warning system

SYMPTOM	SUSPECTED AREA	SEE PAGE
Tire pressure warning system does not operate	1. ECU power source circuit	INFO
	2. TC and CG terminal circuit	INFO
	3. Tire pressure warning valve and transmitter	INFO
	4. Combination meter	INFO
	5. Tire pressure warning antenna and receiver	INFO
	6. Tire pressure warning ECU	INFO
DTC check cannot be completed	1. ECU Power source circuit	INFO
	2. TC and CG terminal circuit	INFO
	3. Tire pressure warning ECU	INFO
Tire pressure warning light malfunctions (Does not turn on)	1. ECU Power source circuit	INFO
	2. Tire pressure warning light circuit	INFO
	3. Combination meter	INFO
	4. Tire pressure warning ECU	INFO
Tire pressure warning light malfunctions (Remains on)	1. Tire pressure check	INFO
	2. Tire pressure warning ECU connector poorly connected	-
	3. Tire pressure warning light circuit	INFO
	4. Combination meter	INFO
	5. Tire pressure warning ECU	INFO
Tire pressure warning light malfunctions (Blinking)	1. Check DTC	INFO
	2. TC and CG terminal circuit	INFO
	3. Test mode (SIGNAL CHECK)	INFO
	4. Tire pressure warning ECU	INFO





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Last Modified: 9-7-2011	6.4 M	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000018LG00GX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: REGISTRATION (2011 RAV4)		

REGISTRATION

1. DESCRIPTION OF CODE REGISTRATION

It is necessary to register the transmitter ID in the tire pressure warning ECU when replacing the tire pressure warning valve and transmitter and/or tire pressure warning ECU.

Prepare all transmitter ID data before starting registration.

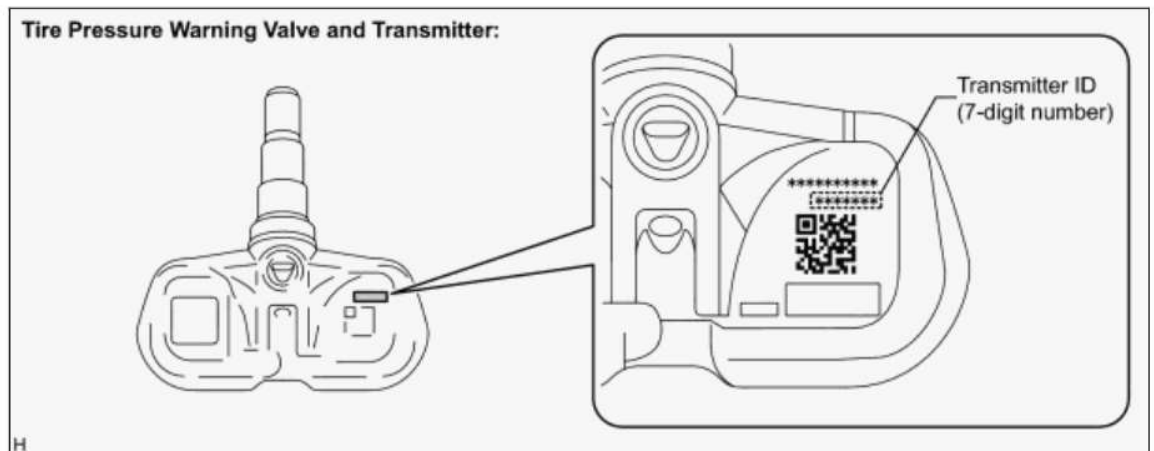
(a) Before registration

(1) If replacing the tire pressure warning ECU:

- Read the registered transmitter IDs that are stored in the old ECU using the Techstream and note them down.
- If reading stored transmitter ID is impossible due to malfunctions of components such as the tire pressure warning antenna and receiver, remove the tires from the wheels and check the ID located on the tire pressure warning valve and transmitter [INFO](#).

(2) If replacing a tire pressure warning valve and transmitter:

- Take a note of the 7-digit number (transmitter ID) written on the tire pressure warning valve and transmitter.



NOTICE:

The transmitter ID is written on the tire pressure warning valve and transmitter. It will be unable to be read after installing the tire pressure warning valve and transmitter on the tire and wheel. Therefore, take a note of the transmitter ID before installing the tire pressure warning valve and transmitter.

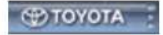
2. REGISTER TRANSMITTER ID

- Set the pressure of all the wheels to the specified value [INFO](#).
- Connect the Techstream to the DLC3.
- Turn the ignition switch ON.
- Turn the Techstream on.
- Enter the following menus: Chassis / Tire Pressure Monitor / Utility / ID Registration.
- Perform the following procedures displayed on the screen.
- Confirm of transmitter ID registration.

- (1) Enter the following menus: Chassis / Tire Pressure Monitor / Data List.
- (2) Read the "ID Tire Inflation Pressure" values.
- (3) Confirm that the data of tire pressure of all tires are displayed on the screen.

NOTICE:

- It may take about 2 or 3 minutes to update the tire pressure data. If the values are not displayed after a few minutes, perform troubleshooting according to the inspection procedure for DTCs C2121/21 to C2125/25  .
- If the IDs have not been registered, DTC C2171/71 is set in the tire pressure warning ECU after 3 minutes or more.
- If normal pressure valves are displayed, the IDs have been registered correctly.
- If the tire pressure valves are not displayed after a few minutes, the IDs may be incorrect or the system may have a malfunction.
- After all IDs are registered, DTC C2126/26 (Transmitter ID not Received in Main Mode) is set in the tire pressure warning ECU and the tire pressure warning light blinks for 1 minute and then comes on. When the tire pressure warning ECU successfully receives radio waves from all the transmitters whole IDs are stored in the ECU, DTC C2126/26 is deleted and the tire pressure warning light goes off.

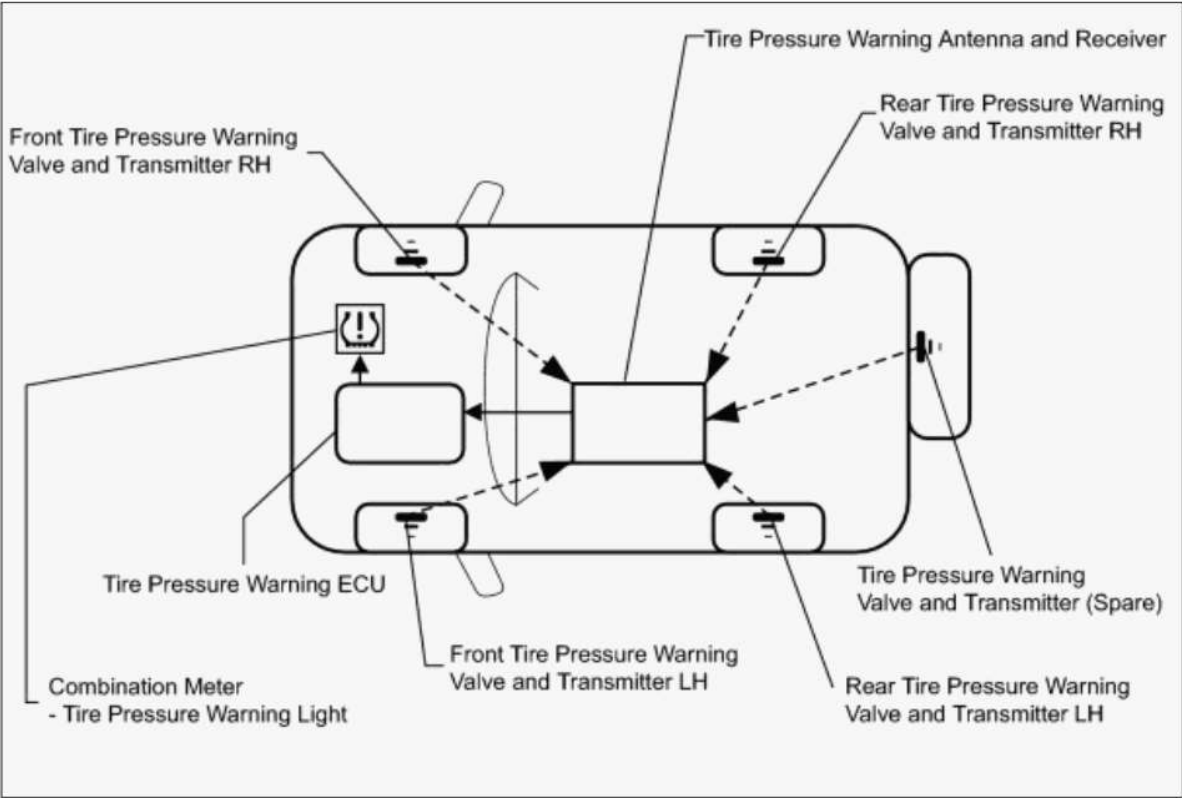


Last Modified: 9-7-2011	6.4 D	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000018L300FX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: SYSTEM DESCRIPTION (2011 RAV4)		

SYSTEM DESCRIPTION

1. DESCRIPTION OF SYSTEM

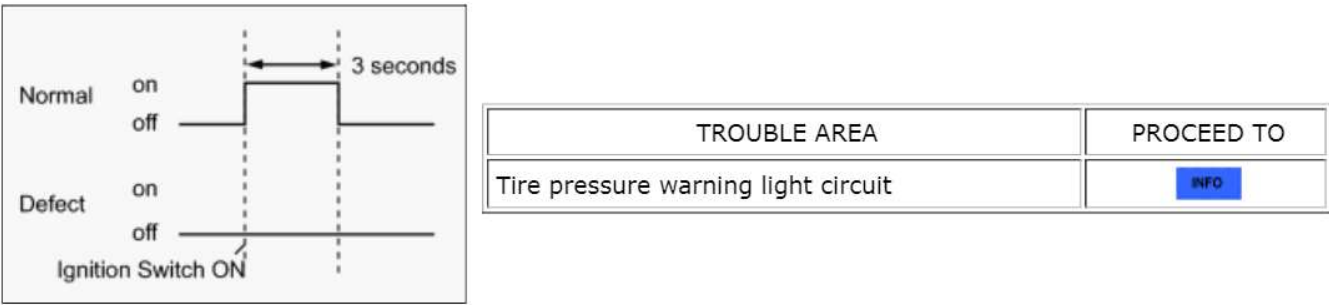
(a) Each tire pressure warning valve and transmitter is equipped with a tire pressure sensor and a transmitter and is installed in each tire and wheel. The sensor measures the tire pressure. The measured value and transmitter ID are transmitted to the tire pressure warning antenna and receiver on the body as radio waves and then sent to the tire pressure warning ECU from the tire pressure warning antenna and receiver. If the transmitter ID has already been registered, the ECU compares the measured air pressure value with the standard value. When the value is less than the standard value registered on the tire pressure warning ECU, the warning light on the combination meter comes on.



2. INITIAL CHECK

(a) After the ignition switch is turned ON, the tire pressure warning light comes on for 3 seconds and then goes off.

HINT:
If the tire pressure warning light does not come on for 3 seconds, troubleshoot the tire pressure warning light circuit.



3. WHEN TIRE PRESSURE WARNING LIGHT IS LIT

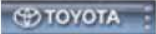
- (a) When the tire pressure warning light does not go off, or when it comes on during driving, check the tire pressure. If the tire pressure warning light comes on within several hours to adjusting the tire pressure, the tire may have a slow air leak.
- (b) Under the following conditions, the system may not function properly.
 - Facilities or devices that use similar radio frequencies are located in the vicinity of the vehicle.
 - A radio device of similar frequency is used in the vehicle.
 - A large amount of snow or ice is stuck to the vehicle, especially onto the wheels and around the wheel wells.
 - The battery of the transmitter has been depleted.
 - Tires without a tire pressure warning valve and transmitters are used.
 - Tire chains are used.
 - If any wheels other than the specified ones are used, the system may not function properly because interference may prevent the radio waves from being correctly transmitted from the tire pressure warning valve and transmitter.
 - A type of film that affects radio waves is attached to the windows.
 - Depending on the tire type, the tire pressure warning system may not function properly even though the specified wheels are used.
 - The tire pressure is abnormally high (absolute pressure: 600 kPa (6 kgf/cm², 87 psi) or more; relative pressure: 500 kPa (5 kgf/cm², 72.5 psi) or more).
- (c) The average usage life of the grommets of the tire pressure warning valve and transmitter is approximately 10 years, at which time it must be replaced.

If a tire pressure warning valve and transmitter is removed from a wheel, replace the grommets.
- (d) After removing and installing the ECU or a sensor, check for DTCs and check that it is a normal system code.

4. FUNCTION OF COMPONENTS

COMPONENTS	FUNCTION
Tire pressure warning valve and transmitter	• Combined as a single unit with a disc wheel air valve, it measures tire pressure and temperature and transmits an ID number for measurement value and identification • Battery is built into valve
Tire pressure warning antenna and receiver	Receives necessary signals from tire pressure warning valve and transmitter and transmits them to tire pressure warning ECU

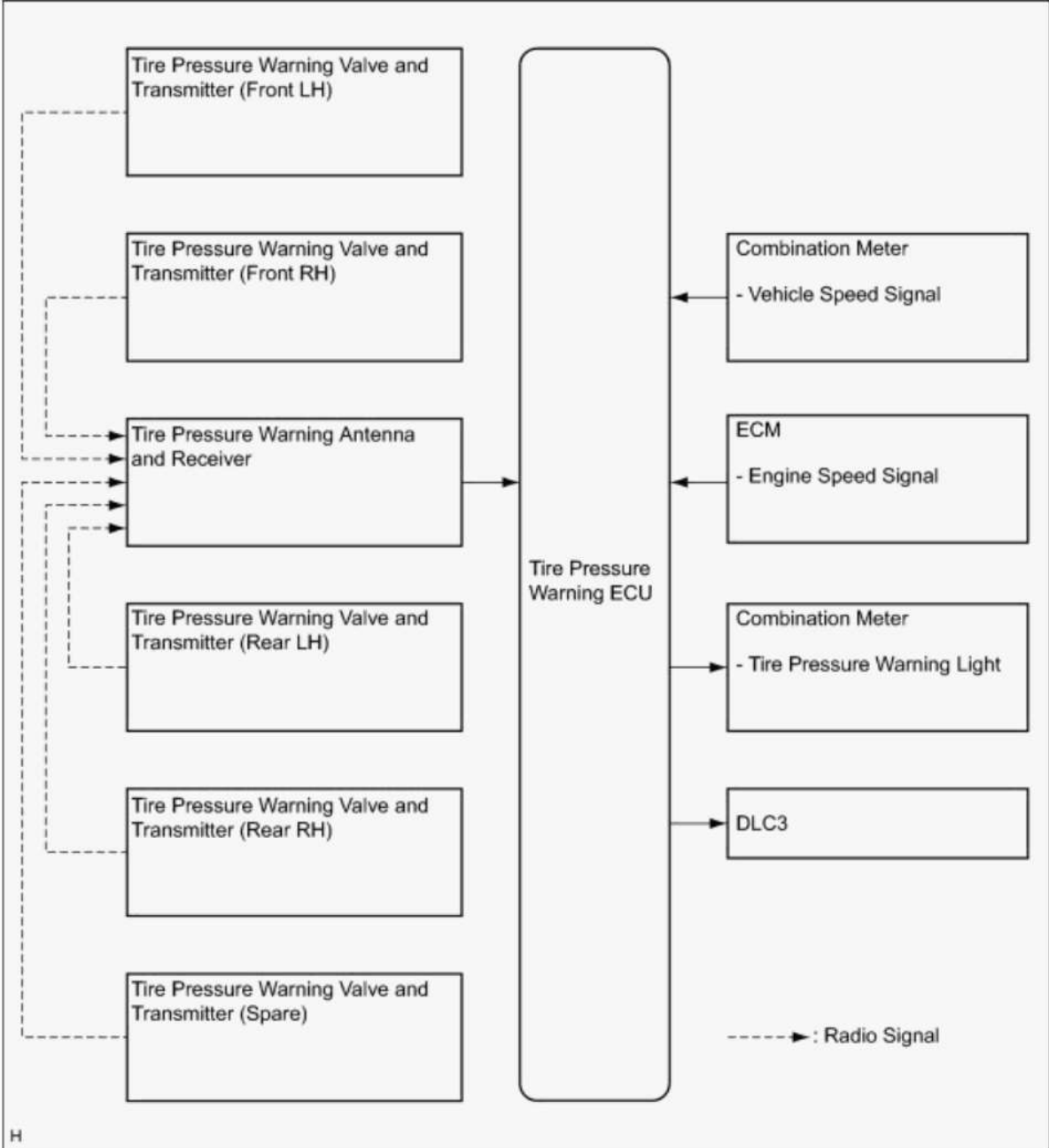
COMPONENTS	FUNCTION
Tire pressure warning ECU	• Receives signal from receiver and identifies it as vehicle's own signal. • If measured value is equal to or lower than specified value, it transmits a signal so that the tire pressure warning light on the combination meter turns on.
Tire pressure warning light	Located in the combination meter, it informs driver of lowered tire pressure and system failure



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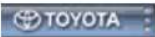
Last Modified: 9-7-2011	6.4 U	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000018L600ZX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: SYSTEM DIAGRAM (2011 RAV4)		

SYSTEM DIAGRAM



HINT:

Each tire pressure warning valve and transmitter send information on the temperature inside the tire, the ID, and the tire pressure.



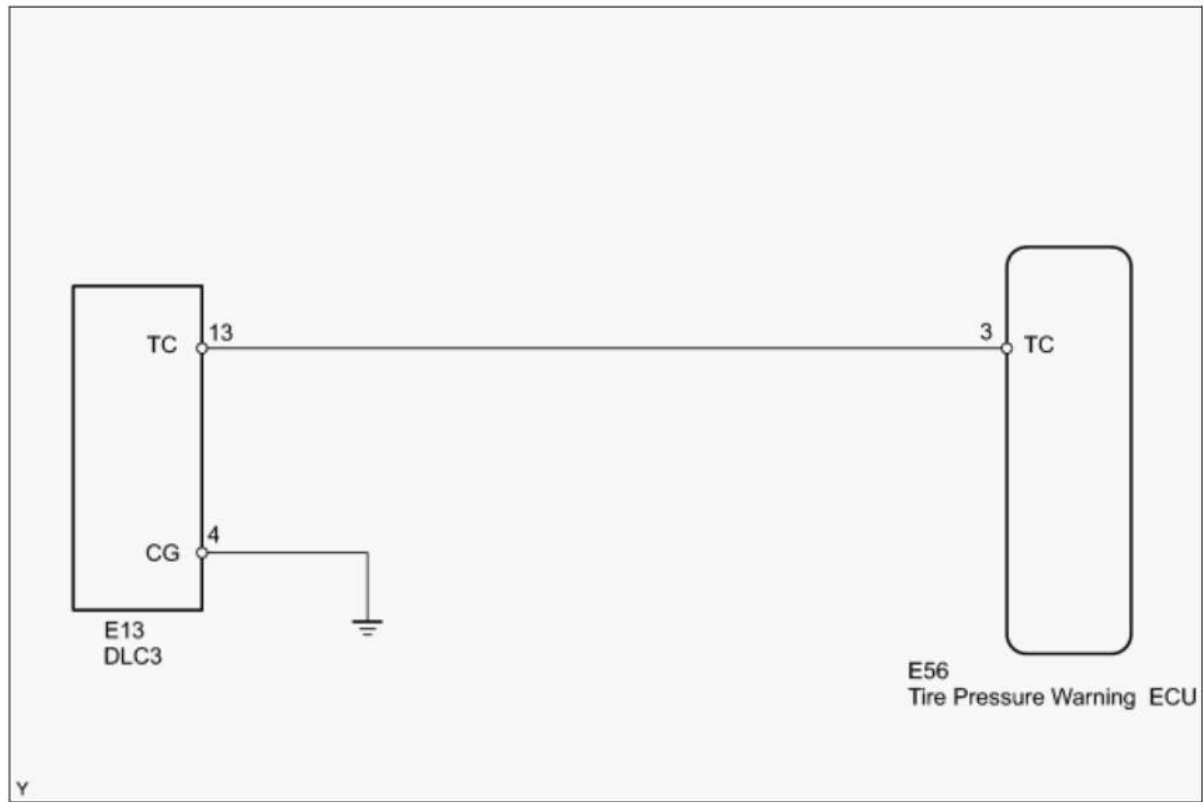
Last Modified: 9-7-2011	6.4 J	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000018LX01YX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: TC and CG Terminal Circuit (2011 RAV4)		

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 continues blinking, a ground short in the wiring of terminal TC of the DLC3 or an internal ground short in each ECU may have occurred.

INSPECTION PROCEDURE

NOTICE:

It is necessary to register the transmitter IDs after replacing a tire pressure warning valve and transmitter and/or the tire pressure warning ECU [INFO](#) .

PROCEDURE

1. CHECK HARNESS AND CONNECTOR (DLC3 - ECU)

- (a) Disconnect the E13 DLC3 connector.
- (b) Disconnect the E56 ECU connector.
- (c) Measure the resistance of the wire harness side connectors.

Standard resistance:

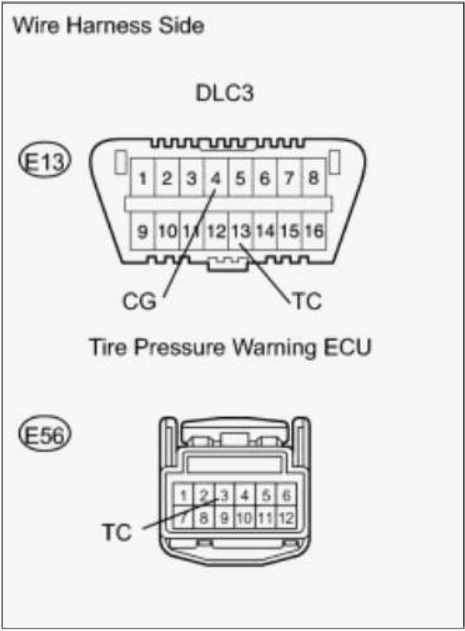
TESTER CONNECTION	SPECIFIED CONDITION
E56-3 (TC) - E13-13 (TC)	Below 1 Ω
E13-4 (CG) - Body ground	

NG

REPAIR OR
REPLACE
HARNESS OR
CONNECTOR

OK

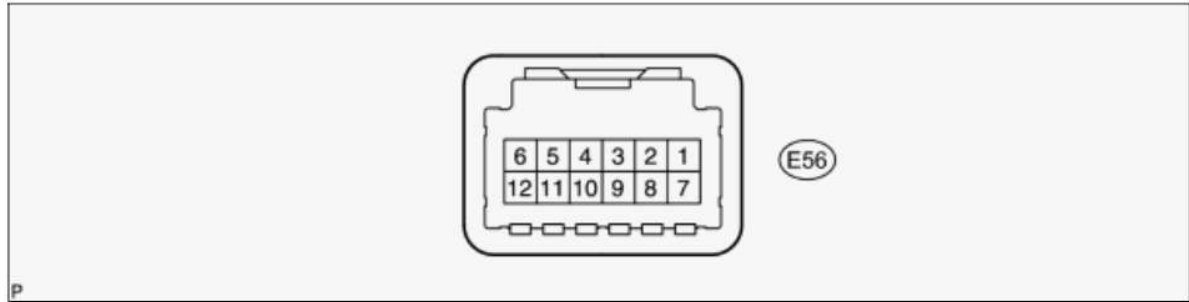
PROCEED TO
NEXT
CIRCUIT
INSPECTION
SHOWN IN
PROBLEM
SYMPTOMS
TABLE



Last Modified: 9-7-2011	6.4 U	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000018KZ01MX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: TERMINALS OF ECU (2011 RAV4)		

TERMINALS OF ECU

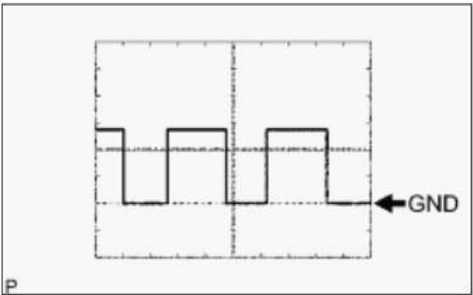
HINT:
Inspect the connectors from the back side while the connectors are connected.



TERMINAL NO. (SYMBOLS)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
E56-2 (SPD) - E56-9 (GND)	V - W-B	Vehicle speed signal	Vehicle is running	Pulse generation (See waveform 1)
E56-3 (TC) - E56-9 (GND)	G - W-B	TC terminal	When terminal TC is not connected	8 to 15 V
E56-4 (TACH) - E56-9 (GND)	GR - W-B	Engine speed signal	Engine is running	Pulse generation (See waveform 2)
E56-5 (IND) - E56-9 (GND)	P - W-B	Tire pressure warning light signal	After ignition switch is turned ON, when tire pressure warning light illuminates for 3 seconds	0.9 to 3.2 V
			• Ignition switch ON • Tire pressure warning light off	3.2 V or higher
E56-6 (RF5V) - E56-9 (GND)	R - W-B	Tire pressure warning antenna and receiver power source	Ignition switch ON	4.5 to 5.5 V
E56-7 (IG) - E56-9 (GND)	L - W-B	IG power source	Ignition switch ON	10 to 16 V
E56-9 (GND) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω

TERMINAL NO. (SYMBOLS)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
E56-10 (SIL) - E56-9 (GND)	W - W-B	Diagnostic communication terminal	- Ignition switch ON - Techstream is connected to DLC3	Pulse generation (See waveform 3)
E56-11 (GND2) - E56-9 (GND)	Y - W-B	Tire pressure warning antenna and receiver ground	Always	Below 1 Ω
E56-12 (RDA) - E56-9 (GND)	G - W-B	Tire pressure warning antenna and receiver signal	- Ignition switch ON - The tire pressure warning antenna and receiver is not connected	9 to 16 V

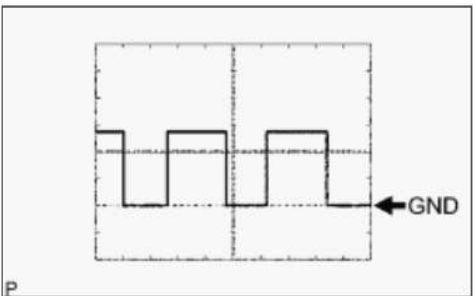
1. Waveform 1 (Reference)



(a) Waveform

ITEM	CONTENTS
Terminal	SPD - GND
Tool setting	5 V/DIV, 200 ms/DIV.
Vehicle condition	While driving at approximately 20 km/h (12 mph).

2. Waveform 2 (Reference)



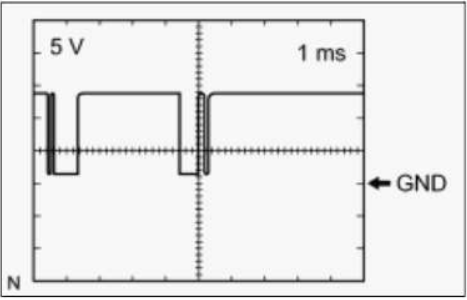
(a) Waveform

ITEM	CONTENTS
Terminal	TACH - GND
Tool setting	5 V/DIV, 10 ms/DIV.
Vehicle condition	Idling

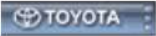
HINT:
The wavelength becomes shorter as the engine speed increases.

3. Waveform 3 (Reference)

(a) Waveform



ITEM	CONTENTS
Terminal	SIL - GND
Tool setting	5 V/DIV., 1 ms/DIV.
Vehicle condition	Communicating using Techstream



Last Modified: 9-7-2011	6.4 D	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000018LE00FX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: TEST MODE PROCEDURE (2011 RAV4)		

TEST MODE PROCEDURE

1. TEST MODE CHECK

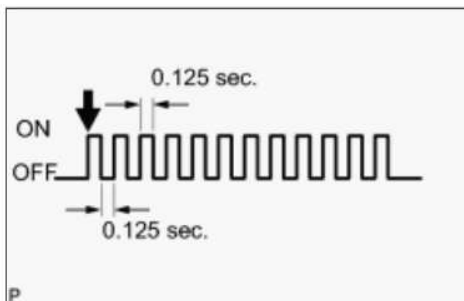
HINT:

- When entering the TEST MODE, the tire pressure warning ECU sets all the test DTCs first. After completing the test mode for each inspection item, the DTCs that are determined normal by the tire pressure warning ECU will be erased.

The DTCs for other inspection items may not be erased when only a certain signal is inspected.

- When the test mode returns back to the normal mode, all the test DTCs will be erased.

- Turn the ignition switch off.
- Connect the Techstream to the DLC3.
- Turn the ignition switch ON.
- Check that the tire pressure warning light comes on for 3 seconds and then goes off.
- Turn the Techstream on.
- Enter the following menus: Chassis / Tire Pressure Monitor / Utility / Signal Check.



- Confirm that the tire pressure warning light in the combination meter blinks at 0.125 second intervals.

2. PERFORM SIGNAL CHECK

HINT:

- When entering the signal check, the tire pressure warning ECU sets all the signal check DTCs first. After completing the signal check for each inspection item, the DTCs that are determined normal by the tire pressure warning ECU will be erased. The DTCs for other inspection items may not be erased when only a certain signal is inspected.

- When the signal check returns back to normal mode, all the signal check DTCs will be erased.

- Make sure that the ignition switch is off.
- Connect the Techstream to the DLC3.
- Turn the ignition switch ON.
- Enter the following menus: Chassis / Tire Pressure Monitor / Utility / Signal Check.

HINT:

Every time the test mode DTC erasure conditions are satisfied, the tire pressure warning light comes on for 1 second. Then, the tire pressure warning light blinks at 0.125 second intervals.

- (e) Start the engine and allow it to run at 1000 rpm for 3 seconds or more to check the engine speed signal (C2194/94).
- (f) Drive the vehicle at 20 km/h (12 mph) or more for 3 seconds or more (C2191/91).
- (g) Loosen the valve core and rapidly reduce the tire pressure for each wheel at least 40 kPa (0.4 kgf/cm², 5.8 psi) within 30 seconds (C2181/81 to C2185/85).

HINT:

The transmitter IDs can be transmitted by rapidly reducing the tire pressure.

- (h) Result

HINT:

After the signal check is completed, check for a signal check DTC to confirm the system status.

CONDITION	PROCEDURE
SIGNAL CHECK DTC is output	Repair faulty part and enter SIGNAL CHECK again
SIGNAL CHECK DTCs are cleared	No problem

- (i) End of SIGNAL CHECK

- (1) After completing the test mode (SIGNAL CHECK), turn the ignition switch off and disconnect the Techstream.

- (j) DTC of SIGNAL CHECK (TEST DIAGNOSIS)

- (1) If a trouble code is displayed during the test mode DTC check, check the circuit listed for that code. For details of each code, refer to "See procedure" below.

DTC NO.	DETECTION ITEM	TROUBLE AREA	SEE PROCEDURE
C2181/81	Transmitter ID1 not received	• Tire pressure warning valve and transmitter • Tire pressure warning antenna and receiver • Tire pressure warning ECU • Wire harness or connector	INFO
C2182/82	Transmitter ID2 not received	• Tire pressure warning valve and transmitter • Tire pressure warning antenna and receiver • Tire pressure warning ECU • Wire harness or connector	INFO

DTC NO.	DETECTION ITEM	TROUBLE AREA	SEE PROCEDURE
C2183/83	Transmitter ID3 not received	• Tire pressure warning valve and transmitter • Tire pressure warning antenna and receiver • Tire pressure warning ECU • Wire harness or connector	INFO
C2184/84	Transmitter ID4 not received	• Tire pressure warning valve and transmitter • Tire pressure warning antenna and receiver • Tire pressure warning ECU • Wire harness or connector	INFO
C2185/85	Transmitter ID5 not received	• Tire pressure warning valve and transmitter • Tire pressure warning antenna and receiver • Tire pressure warning ECU • Wire harness or connector	INFO
C2191/91	Vehicle speed signal error	• Vehicle speed sensor • Tire pressure warning ECU • Combination meter • Wire harness or connector	INFO
C2194/94	Engine speed signal error	• ECM • Combination meter • Wire harness or connector • Tire pressure warning ECU	INFO



Last Modified: 9-7-2011	6.4 J	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000018LW01PX
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING SYSTEM: Tire Pressure Warning Light Circuit (2011 RAV4)		

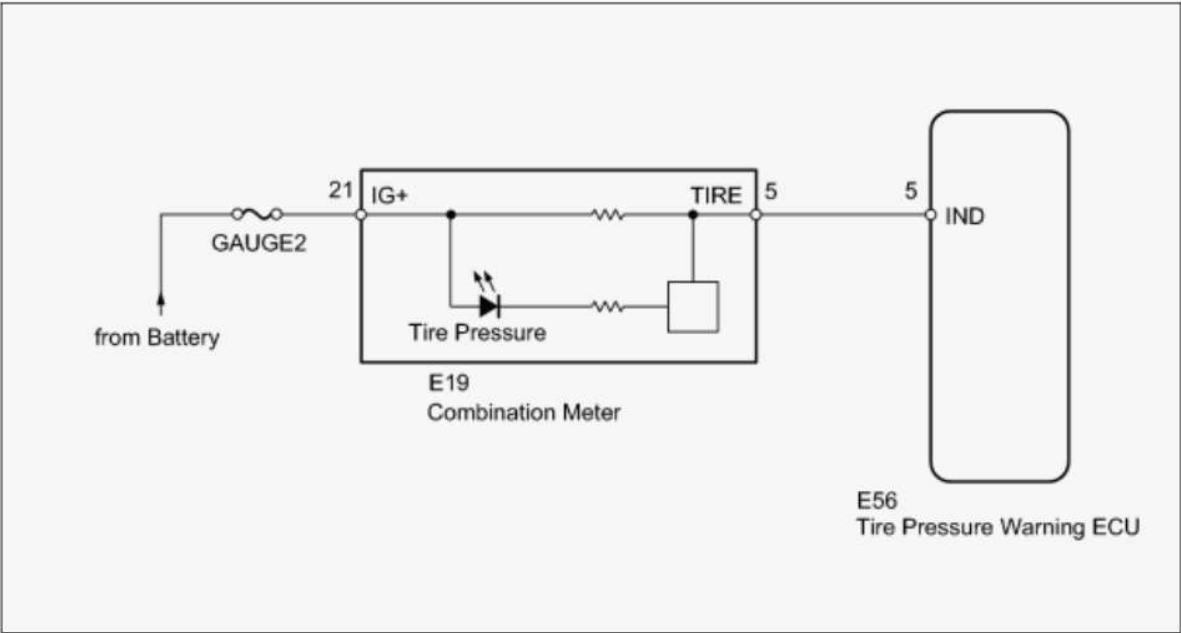
Tire Pressure Warning Light Circuit

DESCRIPTION

If the tire pressure warning ECU detects trouble, the tire pressure warning light turns on and tire pressure monitor is canceled at the same time. At this time, the ECU records a DTC in memory.

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

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:
It is necessary to register the transmitter IDs after replacing a tire pressure warning valve and transmitter and/or the tire pressure warning ECU [INFO](#) .

PROCEDURE

1. INSPECT FUSE (GAUGE2)

(a) Remove the GAUGE2 fuse from the instrument panel junction block.

- (b) Measure the resistance of the fuse.
- Standard resistance:
Below 1 Ω

NG ▶ **REPLACE FUSE**

OK
▼

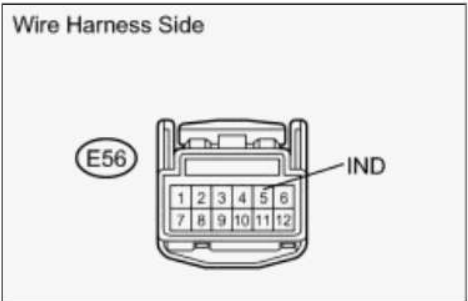
2. CHECK TIRE PRESSURE WARNING LIGHT CIRCUIT

- (a) Disconnect the E56 ECU connector.
- (b) Using a service wire, connect E56-5 (IND) on the wire harness side and body ground.
- (c) Turn the ignition switch ON.
- (d) Check that the tire pressure warning light turns on.

OK:
Tire pressure warning light turns on.

NG ▶ **CHECK HARNESS AND CONNECTOR (ECU - METER)**

OK ▶ **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**



3. CHECK HARNESS AND CONNECTOR (ECU - METER)

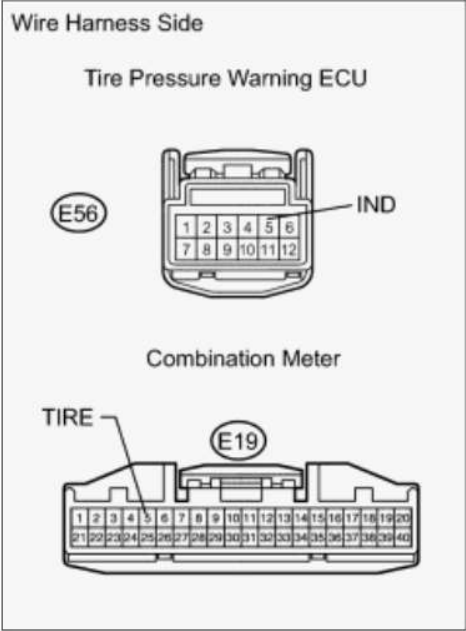
- (a) Disconnect the E56 ECU connector.
- (b) Disconnect the E19 meter connector.
- (c) Measure the resistance of the wire harness side connectors.

Standard resistance:

TESTER CONNECTION	SPECIFIED CONDITION
E56-5 (IND) - E19-5 (TIRE)	Below 1 Ω

NG **REPAIR OR REPLACE HARNESS OR CONNECTOR**

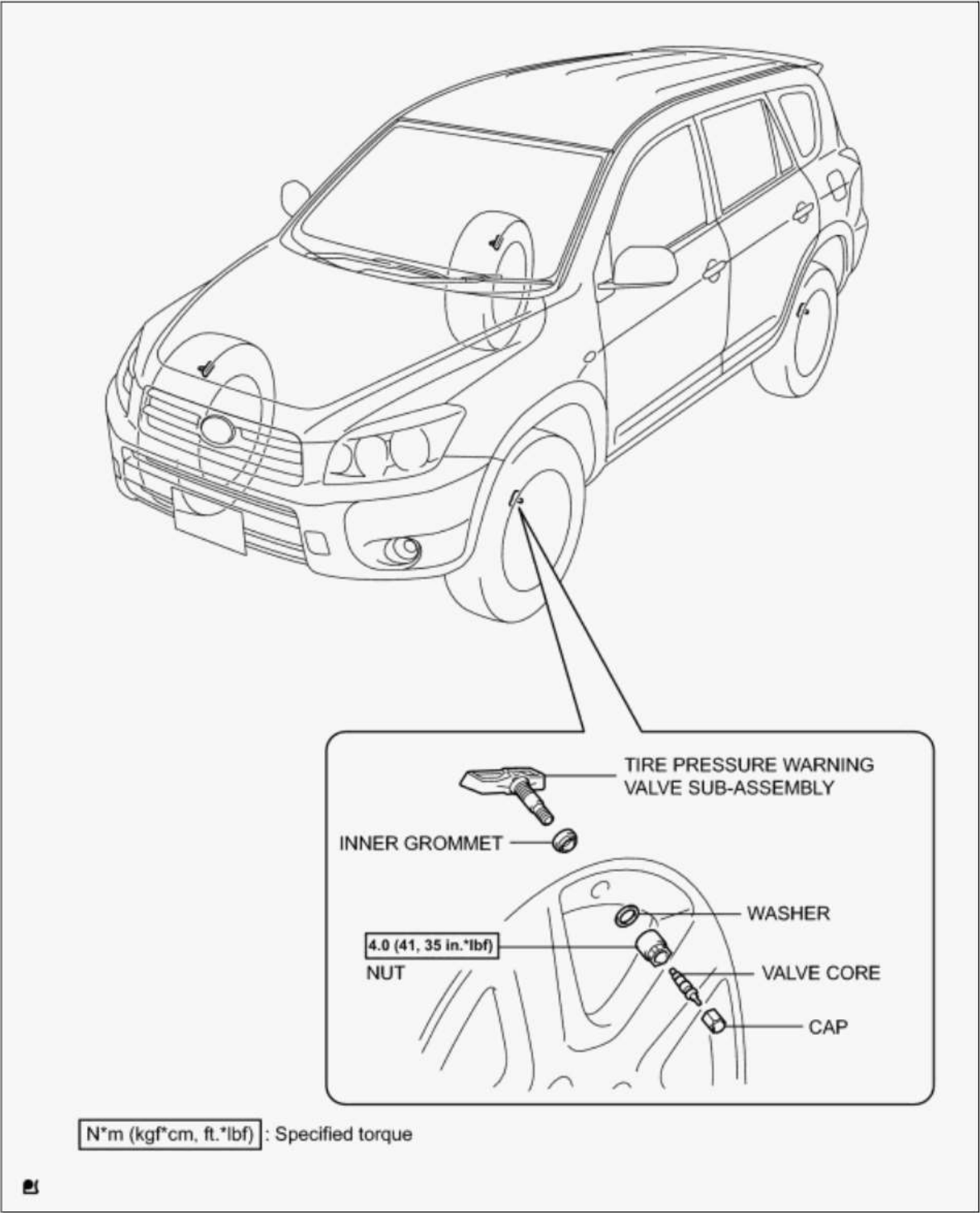
OK **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**



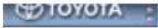
Last Modified: 9-7-2011	6.4 K	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000001Y9K006X
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING VALVE AND TRANSMITTER: COMPONENTS (2011 RAV4)		

COMPONENTS

ILLUSTRATION



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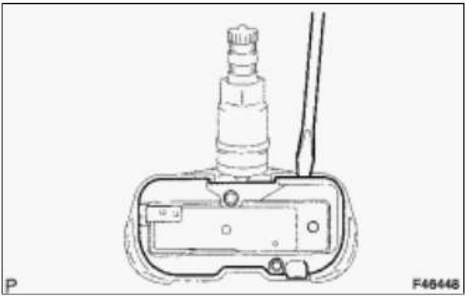
Last Modified: 9-7-2011	6.4 N	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000001YCN006X
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING VALVE AND TRANSMITTER: DISPOSAL (2011 RAV4)		

DISPOSAL

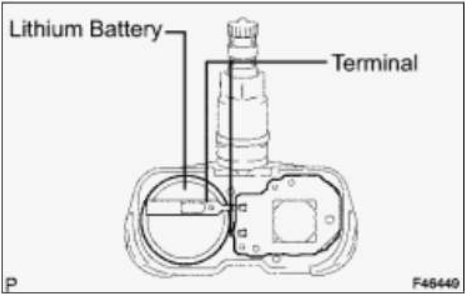
1. DISPOSE OF TIRE PRESSURE WARNING VALVE SUB-ASSEMBLY

HINT:

The tire pressure warning valve is powered by a lithium battery. When disposing of the tire pressure sensor, remove the battery and dispose of it properly.



(a) Using a screwdriver, pry off the back cover.



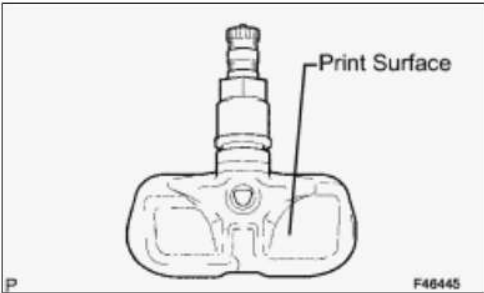
(b) The battery and base board covered with silicone resin are exposed. While taking out the battery, cut the 2 terminals that connect the battery and the base board.



Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000001Y9J006X
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING VALVE AND TRANSMITTER: INSTALLATION (2011 RAV4)		

INSTALLATION

1. INSTALL TIRE PRESSURE WARNING VALVE SUB-ASSEMBLY



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

NOTICE:

- Check that there is no visible deformation, damage or other abnormalities on the transmitter.
- Check that there is no foreign matter on the inner grommet and around the rim hole.
- If the tire pressure warning valve is installed in the reverse direction, it may be damaged or fail to transmit signals when the vehicle is driven at high speeds.

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

Torque: 4.0 N·m (41 kgf·cm, 35in·lbf)

NOTICE:

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

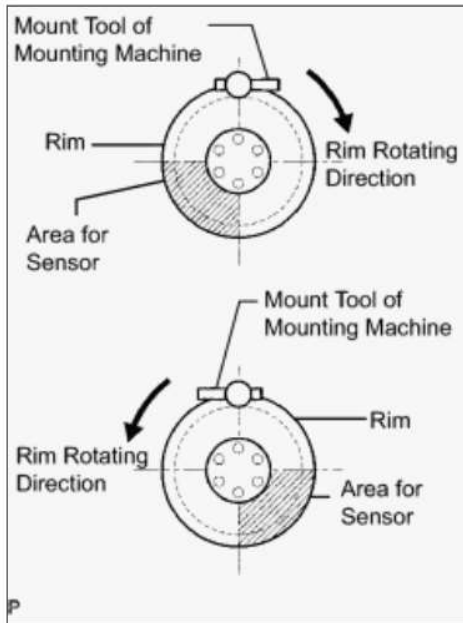
(c) After the tire is inflated, the valve nut may be loose. Retighten the nut to the specified torque and then check for air leaks with soapy water.

Torque: 4.0 N·m (41 kgf·cm, 35in·lbf)

(d) Set the wheel disc to the mounting machine and install the lower tire bead. Position the main body of the valve sensor in the shaded area shown in the illustration.

NOTICE:

If the valve sensor is positioned outside this area, it will interfere with the tire bead and may be damaged.



(e) Install the upper bead.

NOTICE:

- Make sure that the tire bead and tool do not interfere with the main body of the sensor and that the sensor is not clamped by the bead.
- Check that there is no water or other liquid around the tire pressure warning valve.

2. INSTALL FRONT TIRE

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

3. INSTALL REAR TIRE

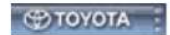
Torque: 103 N·m (1,050 kgf·cm, 76ft·lbf)

4. REGISTER TRANSMITTER ID

HINT:

If the tire pressure warning ECU is replaced with a new one or with an ECU from another vehicle, register the transmitter ID codes.

5. INSPECT TIRE PRESSURE WARNING SYSTEM



Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000001Y9L006X
Title: TIRE AND WHEEL: TIRE PRESSURE WARNING VALVE AND TRANSMITTER: REMOVAL (2011 RAV4)		

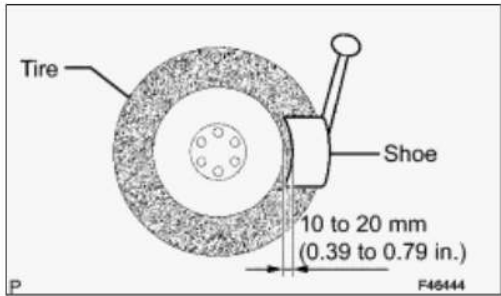
REMOVAL

1. REMOVE FRONT TIRE
2. REMOVE REAR TIRE
3. REMOVE TIRE PRESSURE WARNING VALVE SUB-ASSEMBLY

- (a) Remove the valve core and cap, and release air from the tire.
- (b) After ensuring that air is sufficiently released, remove the nut and washer that are used to fix the tire pressure warning valve and drop the valve sensor inside the tire.

HINT:

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



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

NOTICE:
Be careful not to damage the tire pressure warning valve because of interference between the sensor and tire bead.

- (d) Remove the bead on the upper side.
- (e) Take out the sensor from the tire and remove the bead on the lower side.
- (f) Remove the inner grommet from the tire pressure warning valve.

HINT:

Check that there are no cracks or damage on the grommet. If necessary, replace the grommet, the washer and the nut.

