

DTC	C2121/21	No Signal from Transmitter ID1 in Main Mode
DTC	C2122/22	No Signal from Transmitter ID2 in Main Mode
DTC	C2123/23	No Signal from Transmitter ID3 in Main Mode
DTC	C2124/24	No Signal from Transmitter ID4 in Main Mode
DTC	C2125/25	No Signal from Transmitter ID5 in Main Mode
DTC	C2181/81	Transmitter ID1 not Received (Test Mode DTC)
DTC	C2182/82	Transmitter ID2 not Received (Test Mode DTC)
DTC	C2183/83	Transmitter ID3 not Received (Test Mode DTC)
DTC	C2184/84	Transmitter ID4 not Received (Test Mode DTC)
DTC	C2185/85	Transmitter ID5 not Received (Test Mode DTC)

TW

DESCRIPTION

The tire pressure warning valve and transmitter constantly sends radio waves to the tire pressure warning ECU.

Under the following conditions, the tire pressure warning antenna and receiver is unable to receive the signals from the tire pressure warning valve and transmitter, and a DTC is output.

- Areas, 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.

DTCs C2121/21 to C2125/25 can only be deleted by the tester. DTCs C2181/81 to C2185/85 can be deleted when the transmitter sends a forced transmission signal or the test mode ends. DTCs C2181/81 to C2185/85 are output only in the test mode.

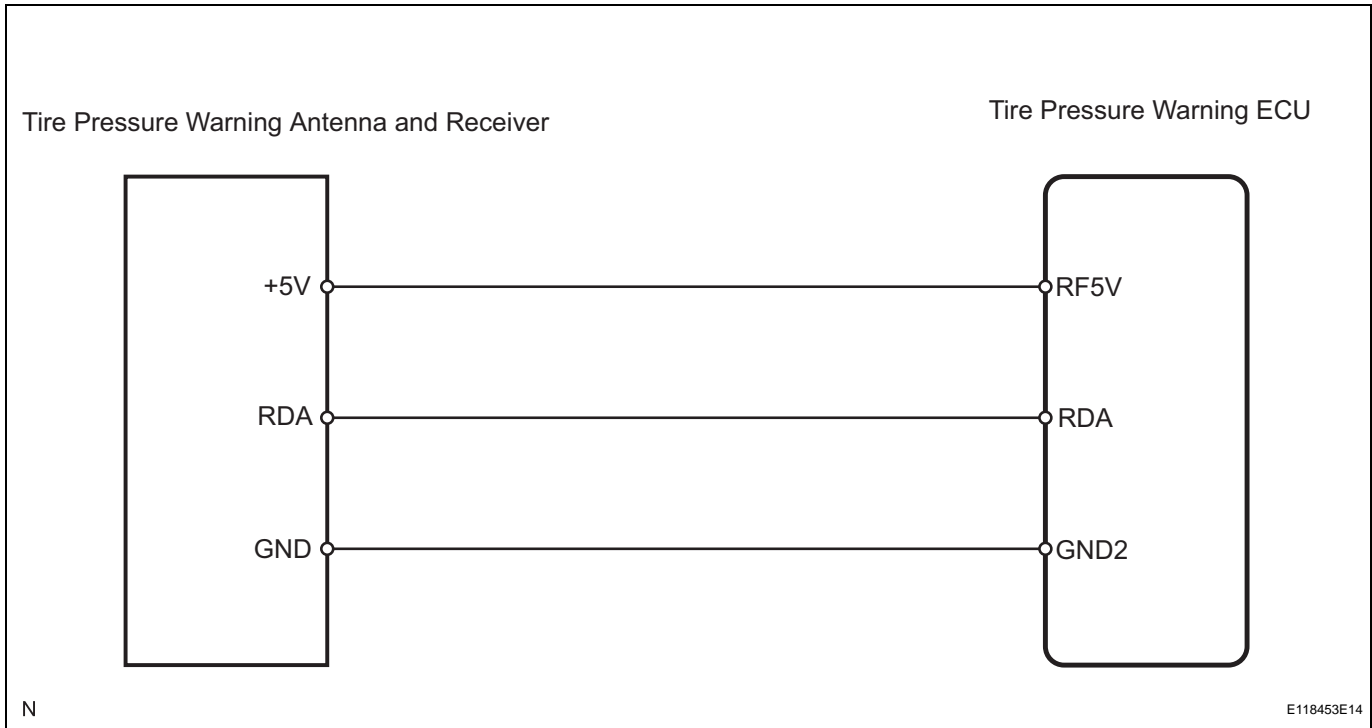
DTC No.	DTC Detection Condition	Trouble Area
C2121/21 C2122/22 C2123/23 C2124/24 C2125/25	These DTCs are detected when no signals are received for 51 minutes or more, after a vehicle speed of 5 mph (8 km/h) or more is detected and no signals are received for 12 minutes or more	<ul style="list-style-type: none"> • Tire pressure warning valve and transmitter • Tire pressure warning antenna and receiver • Tire pressure warning ECU • Wire harness
C2181/81 C2182/82 C2183/83 C2184/84 C2185/85	Malfunction in transmission / reception circuit	<ul style="list-style-type: none"> • Tire pressure warning valve and transmitter • Tire pressure warning antenna and receiver • Tire pressure warning ECU • Wire harness

HINT:

When no signals are received for 60 minutes or more, a DTC is output.

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 an ID code after replacing the tire pressure warning valve and transmitter and/or the tire pressure warning ECU (see page TW-9).

1	IDENTIFY TRANSMITTER (CORRESPONDING TO DTC)
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- (a) Set the pressure of each tire to the specified value.
Standard pressure:
220 kPa (2.2 kgf/cm², 32 psi)
- (b) Connect the intelligent tester (with CAN VIM) to the DLC3.
- (c) Turn the ignition switch ON.
- (d) Select TIREPRESS by following the prompts displayed on the intelligent tester.

Tire pressure warning ECU

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
TIREPRESS1	ID1 tire pressure/ minimum: 0 kPa (0 kgf/cm ² , 0 psi) maximum: 637.5 kPa (6.5 kgf/cm ² , 92.5 psi)	Actual tire pressure	-
TIREPRESS2	ID2 tire pressure/ minimum: 0 kPa (0 kgf/cm ² , 0 psi) maximum: 637.5 kPa (6.5 kgf/cm ² , 92.5 psi)	Actual tire pressure	-
TIREPRESS3	ID3 tire pressure/ minimum: 0 kPa (0 kgf/cm ² , 0 psi) maximum: 637.5 kPa (6.5 kgf/cm ² , 92.5 psi)	Actual tire pressure	-

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
TIREPRESS4	ID4 tire pressure/ minimum: 0 kPa (0 kgf/cm ² , 0 psi) maximum: 637.5 kPa (6.5 kgf/cm ² , 92.5 psi)	Actual tire pressure	-
TIREPRESS5	ID5 tire pressure/ minimum: 0 kPa (0 kgf/cm ² , 0 psi) maximum: 637.5 kPa (6.5 kgf/cm ² , 92.5 psi)	Actual tire pressure	-

- (e) Rapidly release the tire pressure from any tire by 40 kPa (0.4 kgf/cm², 5.8 psi) for 30 seconds or more.

HINT:

- Identify the malfunctioning tire pressure warning valve and transmitter by rapidly releasing the tire pressures from each tire.
- Record which TIREPRESS data (ID1 to ID5) corresponds to each tire.

- (f) Check the DATA LIST.

Result

Condition	Detection Condition
One of TIREPRESS data (ID1 to ID5) changed	Normal
No TIREPRESS data changed	Transmitter corresponding to DTC

TW

NOTICE:

- It may take up to 1 minute to display the updated tire pressure data.
- When the TIREPRESS data (IDs 1 to 5) changes, reset the tire pressure of the tires to the specified value, rotate the tires 90 to 270° and recheck.
- When the transmitter is normal, record the tire location and the transmitter ID.

- (g) When the TIREPRESS data (IDs 1 to 5) changes, repeat the same procedure on the rest of the tires (one by one) to identify which tire pressure warning valve and transmitter the DTC corresponds to.

- (h) Set the pressure of each tire to the specified value.

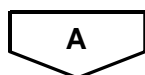
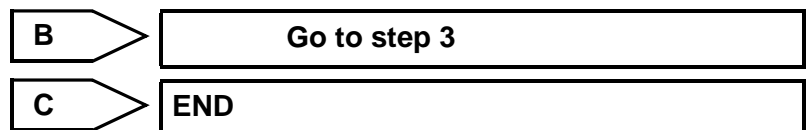
Standard pressure:

220 kPa (2.2 kgf/cm², 32 psi)

- (i) Check all transmitters of the tires.

Result

Result	Detection Condition
One or more of transmitters abnormal	A
All abnormal	B
All normal	C

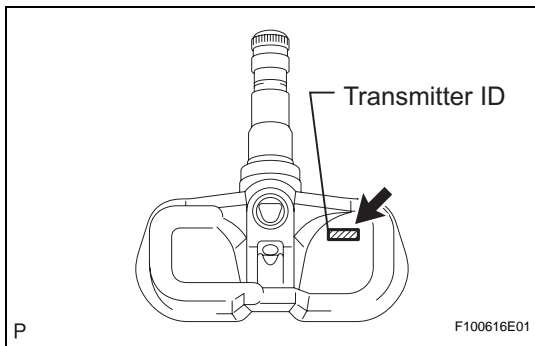


2 CHECK TIRE PRESSURE WARNING VALVE AND TRANSMITTER

- (a) Select REGIT ID CODE by following the prompts displayed on the intelligent tester.

Tire pressure warning ECU

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
REGIT ID1 CODE	Registered ID1 code/ minimum: 0 maximum: FFFFFFFF	The ID No. registered in transmitter ID1 is display	-
REGIT ID2 CODE	Registered ID2 code/ minimum: 0 maximum: FFFFFFFF	The ID No. registered in transmitter ID2 is display	-
REGIT ID3 CODE	Registered ID3 code/ minimum: 0 maximum: FFFFFFFF	The ID No. registered in transmitter ID3 is display	-
REGIT ID4 CODE	Registered ID4 code/ minimum: 0 maximum: FFFFFFFF	The ID No. registered in transmitter ID4 is display	-
REGIT ID5 CODE	Registered ID5 code/ minimum: 0 maximum: FFFFFFFF	The ID No. registered in transmitter ID5 is display	-



- (b) Remove the tire pressure warning valve and transmitter and check its ID number (see page TW-61).
- (c) Check whether the recorded transmitter ID and the actual transmitter ID match.

Result

Result	Detection Condition
Unmatched	A
Matched	B

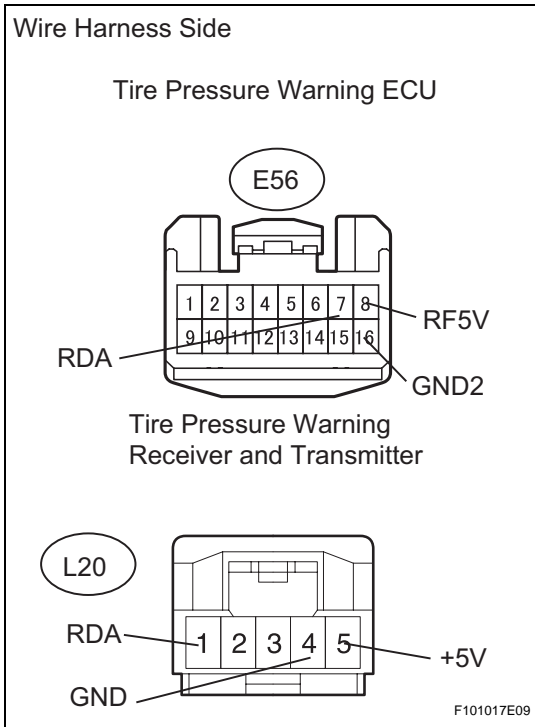
B → **REPLACE TIRE PRESSURE WARNING VALVE AND TRANSMITTER**

A

PERFORM REGISTRATION (TRANSMITTER ID)

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3 CHECK WIRE HARNESS (ECU - RECEIVER)



- (a) Disconnect the E56 ECU connector.
- (b) Disconnect the L20 receiver connector.
- (c) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Specified Condition
E56-8 (RF5V) - L20-5 (+5V)	Below 1 Ω
E56-7 (RDA) - L20-1 (RDA)	
E56-16 (GND2) - L20-4 (GND)	

NG REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

TW

4 READ VALUE OF INTELLIGENT TESTER (TIRE PRESSURE)

- (a) Check the DATA LIST tire pressure valve.

Tire pressure warning ECU

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
TIREPRESS1	ID1 tire pressure/ minimum: 0 kPa (0 kgf/cm ² , 0 psi) maximum: 637.5 kPa (6.5 kgf/cm ² , 92.5 psi)	Actual tire pressure	-
TIREPRESS2	ID2 tire pressure/ minimum: 0 kPa (0 kgf/cm ² , 0 psi) maximum: 637.5 kPa (6.5 kgf/cm ² , 92.5 psi)	Actual tire pressure	-
TIREPRESS3	ID3 tire pressure/ minimum: 0 kPa (0 kgf/cm ² , 0 psi) maximum: 637.5 kPa (6.5 kgf/cm ² , 92.5 psi)	Actual tire pressure	-
TIREPRESS4	ID4 tire pressure/ minimum: 0 kPa (0 kgf/cm ² , 0 psi) maximum: 637.5 kPa (6.5 kgf/cm ² , 92.5 psi)	Actual tire pressure	-
TIREPRESS5	ID5 tire pressure/ minimum: 0 kPa (0 kgf/cm ² , 0 psi) maximum: 637.5 kPa (6.5 kgf/cm ² , 92.5 psi)	Actual tire pressure	-

OK:

All tire pressure readings are equal to the actual tire pressure.

NOTICE:

It may take up to 1 minute to display the updated tire pressure data.

OK → END

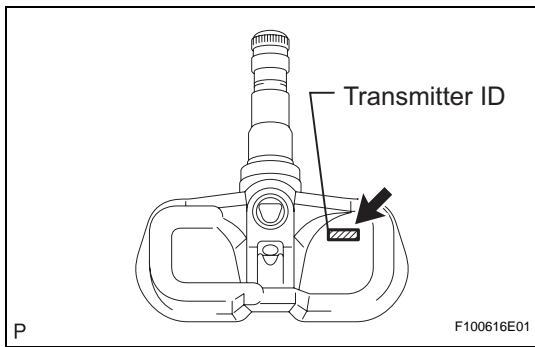
NG

5 CHECK ID CODE (TIRE PRESSURE WARNING VALVE AND TRANSMITTER)

- (a) Select REGIT ID CODE by following the prompts displayed on the intelligent tester.

Tire pressure warning ECU

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
REGIT ID1 CODE	Registered ID1 code/ minimum: 0 maximum: FFFFFFFF	The ID No. registered in transmitter ID1 is display	-
REGIT ID2 CODE	Registered ID2 code/ minimum: 0 maximum: FFFFFFFF	The ID No. registered in transmitter ID2 is display	-
REGIT ID3 CODE	Registered ID3 code/ minimum: 0 maximum: FFFFFFFF	The ID No. registered in transmitter ID3 is display	-
REGIT ID4 CODE	Registered ID4 code/ minimum: 0 maximum: FFFFFFFF	The ID No. registered in transmitter ID4 is display	-
REGIT ID5 CODE	Registered ID5 code/ minimum: 0 maximum: FFFFFFFF	The ID No. registered in transmitter ID5 is display	-



- (b) Remove the tire pressure monitor valve and transmitter check its ID number (see page TW-61).
- (c) Check whether the recorded transmitter ID and the actual transmitter ID match.

Result

Result	Detection Condition
Unmatched	A
Matched	B

B → REPLACE TIRE PRESSUREWARNING RECEIVER AND TRANSMITTER

A

PERFORM REGISTRATION (TRANSMITTER ID)

TW