

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

TIRE PRESSURE MONITORING SYSTEM (DIAGNOSTICS)

## 14. Diagnostic Procedure with Diagnostic Trouble Code (DTC)

### A: DTC C2021 TIRE 1 AIR PRESSURE DECREASE

NOTE:

Refer to DTC C2024 for diagnostic procedure. <Ref. to TPM(diag)-22, DTC C2024 TIRE 4 AIR PRESSURE DECREASE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### B: DTC C2022 TIRE 2 AIR PRESSURE DECREASE

NOTE:

Refer to DTC C2024 for diagnostic procedure. <Ref. to TPM(diag)-22, DTC C2024 TIRE 4 AIR PRESSURE DECREASE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### C: DTC C2023 TIRE 3 AIR PRESSURE DECREASE

NOTE:

Refer to DTC C2024 for diagnostic procedure. <Ref. to TPM(diag)-22, DTC C2024 TIRE 4 AIR PRESSURE DECREASE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### D: DTC C2024 TIRE 4 AIR PRESSURE DECREASE

#### DTC DETECTING CONDITION:

Inflation pressure of tires dropped below the specified value.

NOTE:

For the specifications, refer to "CURRENT DATA". <Ref. to TPM(diag)-12, LIST, Read Current Data.>

#### TROUBLE SYMPTOM:

Tire pressure warning light illuminates.

Step	Check	Yes	No
1 <b>CHECK TIRES.</b> Lift up the vehicle and check for damage in the tires.	Are there cracks or damage?	Replace the tire.	Go to step 2.
2 <b>CHECK TIRES.</b> Check the tire air pressure.	Is the tire pressure in the specifications?	Go to step 3.	Adjust the air pressure.
3 <b>CHECK TRANSMITTER.</b> Drive the vehicle at 40 km/h (25 MPH) or faster and compare the data from the transmitter on the four wheels.	Is there a transmitter with different data?	Replace the transmitter (tire pressure sensor).	Go to step 4.
4 <b>PERFORM DRIVING TEST.</b> 1) Perform the Clear Memory Mode. <Ref. to TPM(diag)-11, OPERATION, Clear Memory Mode.> 2) Perform a driving test. <Ref. to TPM(diag)-15, PROCEDURE, Inspection Mode.> 3) Read the DTC. <Ref. to TPM(diag)-10, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Inspect by referring to "Diagnostic Procedure with Diagnostic Trouble Code (DTC)". <Ref. to TPM(diag)-22, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

#### CAUTION:

When driving vehicle to perform driving test, there should be always 2 persons (driver and checker) to check.

#### **E: DTC C2121 TRANSMITTER 1 NO DATA**

NOTE:

Refer to DTC C2124 for diagnostic procedure. <Ref. to TPM(diag)-24, DTC C2124 TRANSMITTER 4 NO DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

#### **F: DTC C2122 TRANSMITTER 2 NO DATA**

NOTE:

Refer to DTC C2124 for diagnostic procedure. <Ref. to TPM(diag)-24, DTC C2124 TRANSMITTER 4 NO DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

#### **G: DTC C2123 TRANSMITTER 3 NO DATA**

NOTE:

Refer to DTC C2124 for diagnostic procedure. <Ref. to TPM(diag)-24, DTC C2124 TRANSMITTER 4 NO DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

TIRE PRESSURE MONITORING SYSTEM (DIAGNOSTICS)

## H: DTC C2124 TRANSMITTER 4 NO DATA

### DTC DETECTING CONDITION:

Data from each transmitter is not received for 8 minutes.

### TROUBLE SYMPTOM:

Tire pressure warning light blinks 25 times and then illuminates.

Step	Check	Yes	No
1 <b>START FL TRANSMITTER.</b> 1) Connect the Subaru Select Monitor and then turn the ignition switch to ON. 2) Select "Transmit ID data monitor". <Ref. to TPM(diag)-14, OPERATION, Display Transmitter (ID).> 3) Use the transmitter registration tool and transmit the ID from the FL transmitter to check "Latest reception ID".	Is "Latest reception ID" updated?	Go to step 2.	Replace front left transmitter.
2 <b>CHECK FL TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the tire 1 registered ID.	Are the two IDs same?	Go to step 3.	Record the received ID update as the FL transmitter. Go to step 3.
3 <b>START FR TRANSMITTER.</b> Use the transmitter registration tool and transmit the ID from the FR transmitter to check "Latest reception ID".	Is "Latest reception ID" updated?	Go to step 4.	Replace the front right transmitter.
4 <b>CHECK FR TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the tire 2 registered ID.	Are the two IDs same?	Go to step 5.	Record the received ID update as the FR transmitter. Go to step 5.
5 <b>START RR TRANSMITTER.</b> Use the transmitter registration tool and transmit the ID from the RR transmitter to check "Latest reception ID".	Is "Latest reception ID" updated?	Go to step 6.	Replace the RR transmitter.
6 <b>CHECK RR TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the tire 3 registered ID.	Are the two IDs same?	Go to step 7.	Record the received ID update as the RR transmitter. Go to step 7.
7 <b>START RL TRANSMITTER.</b> Use the transmitter registration tool and transmit the ID from the RL transmitter to check "Latest reception ID".	Is "Latest reception ID" updated?	Go to step 8.	Replace the RL transmitter.
8 <b>CHECK RL TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the tire 4 registered ID.	Are the two IDs same?	Go to step 9.	Record the received ID update as the RL transmitter. Go to step 9.
9 <b>CHECK MALFUNCTION TRANSMITTER.</b>	Is ID recorded by this procedure?	Go to step 10.	Go to step 1.
10 <b>CHECK MALFUNCTION TRANSMITTER.</b> Check the registered ID of the transmitter indicated by DTC.	Is there checked ID in the record?	Replace the transmitter of the recorded position.	Replace the transmitter showing the latest ID that is not included in the registered IDs.

### CAUTION:

When driving vehicle to perform driving test, there should be always 2 persons (driver and checker) to check.

### **I: DTC C2221 TRANSMITTER 1 PRESSURE DATA ABNORMAL**

NOTE:

Refer to DTC C2224 for diagnostic procedure. <Ref. to TPM(diag)-26, DTC C2224 TRANSMITTER 4 PRESSURE DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### **J: DTC C2222 TRANSMITTER 2 PRESSURE DATA ABNORMAL**

NOTE:

Refer to DTC C2224 for diagnostic procedure. <Ref. to TPM(diag)-26, DTC C2224 TRANSMITTER 4 PRESSURE DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### **K: DTC C2223 TRANSMITTER 3 PRESSURE DATA ABNORMAL**

NOTE:

Refer to DTC C2224 for diagnostic procedure. <Ref. to TPM(diag)-26, DTC C2224 TRANSMITTER 4 PRESSURE DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

TIRE PRESSURE MONITORING SYSTEM (DIAGNOSTICS)

## L: DTC C2224 TRANSMITTER 4 PRESSURE DATA ABNORMAL

### DTC DETECTING CONDITION:

- When comparing the data from each transmitter to the previous data, the change is large.
- The pressure exceeds what the transmitter can measure. (Excessive pressure)

### TROUBLE SYMPTOM:

Tire pressure warning light blinks 25 times and then illuminates.

Step	Check	Yes	No
1 <b>START FL TRANSMITTER.</b> 1) Connect the Subaru Select Monitor and then turn the ignition switch to ON. 2) Select "Transmit ID data monitor". <Ref. to TPM(diag)-14, OPERATION, Display Transmitter (ID).> 3) Use the transmitter registration tool and transmit the ID from the FL transmitter to check "Latest reception ID".	Is "Latest reception ID" updated?	Go to step 2.	Replace front left transmitter.
2 <b>CHECK FL TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the tire 1 registered ID.	Are the two IDs same?	Go to step 3.	Record the received ID update as the FL transmitter. Go to step 3.
3 <b>START FR TRANSMITTER.</b> Use the transmitter registration tool and transmit the ID from the FR transmitter to check "Latest reception ID".	Is "Latest reception ID" updated?	Go to step 4.	Replace the front right transmitter.
4 <b>CHECK FR TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the tire 2 registered ID.	Are the two IDs same?	Go to step 5.	Record the received ID update as the FR transmitter. Go to step 5.
5 <b>START RR TRANSMITTER.</b> Use the transmitter registration tool and transmit the ID from the RR transmitter to check "Latest reception ID".	Is "Latest reception ID" updated?	Go to step 6.	Replace the RR transmitter.
6 <b>CHECK RR TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the tire 3 registered ID.	Are the two IDs same?	Go to step 7.	Record the received ID update as the RR transmitter. Go to step 7.
7 <b>START RL TRANSMITTER.</b> Use the transmitter registration tool and transmit the ID from the RL transmitter to check "Latest reception ID".	Is "Latest reception ID" updated?	Go to step 8.	Replace the RL transmitter.
8 <b>CHECK RL TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the tire 4 registered ID.	Are the two IDs same?	Go to step 9.	Record the received ID update as the RL transmitter. Go to step 9.
9 <b>CHECK MALFUNCTION TRANSMITTER.</b>	Is ID recorded by this procedure?	Go to step 10.	Go to step 1.
10 <b>CHECK MALFUNCTION TRANSMITTER.</b> Check the registered ID of the transmitter indicated by DTC.	Is there checked ID in the record?	Replace the transmitter of the recorded position.	Replace the transmitter showing the latest ID that is not included in the registered IDs.

#### **M: DTC C2321 TRANSMITTER 1 FUNCTION CODE ABNORMAL**

NOTE:

Refer to DTC C2324 for diagnostic procedure. <Ref. to TPM(diag)-28, DTC C2324 TRANSMITTER 4 FUNCTION CODE ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

#### **N: DTC C2322 TRANSMITTER 2 FUNCTION CODE ABNORMAL**

NOTE:

Refer to DTC C2324 for diagnostic procedure. <Ref. to TPM(diag)-28, DTC C2324 TRANSMITTER 4 FUNCTION CODE ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

#### **O: DTC C2323 TRANSMITTER 3 FUNCTION CODE ABNORMAL**

NOTE:

Refer to DTC C2324 for diagnostic procedure. <Ref. to TPM(diag)-28, DTC C2324 TRANSMITTER 4 FUNCTION CODE ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

TIRE PRESSURE MONITORING SYSTEM (DIAGNOSTICS)

## P: DTC C2324 TRANSMITTER 4 FUNCTION CODE ABNORMAL

### DTC DETECTING CONDITION:

Unexpected function codes received from each transmitter.

### TROUBLE SYMPTOM:

Tire pressure warning light blinks 25 times and then illuminates.

Step	Check	Yes	No
<b>1 START FL TRANSMITTER.</b> 1) Connect the Subaru Select Monitor and then turn the ignition switch to ON. 2) Select "Transmit ID data monitor". <Ref. to TPM(diag)-14, OPERATION, Display Transmitter (ID).> 3) Use the transmitter registration tool and transmit the ID from the FL transmitter to check "Latest reception ID".	Is "Latest reception ID" updated?	Go to step <b>2</b> .	Replace front left transmitter.
<b>2 CHECK FL TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the tire 1 registered ID.	Are the two IDs same?	Go to step <b>3</b> .	Record the received ID update as the FL transmitter. Go to step <b>3</b> .
<b>3 START FR TRANSMITTER.</b> Use the transmitter registration tool and transmit the ID from the FR transmitter to check "Latest reception ID".	Is "Latest reception ID" updated?	Go to step <b>4</b> .	Replace the front right transmitter.
<b>4 CHECK FR TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the tire 2 registered ID.	Are the two IDs same?	Go to step <b>5</b> .	Record the received ID update as the FR transmitter. Go to step <b>5</b> .
<b>5 START RR TRANSMITTER.</b> Use the transmitter registration tool and transmit the ID from the RR transmitter to check "Latest reception ID".	Is "Latest reception ID" updated?	Go to step <b>6</b> .	Replace the RR transmitter.
<b>6 CHECK RR TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the tire 3 registered ID.	Are the two IDs same?	Go to step <b>7</b> .	Record the received ID update as the RR transmitter. Go to step <b>7</b> .
<b>7 START RL TRANSMITTER.</b> Use the transmitter registration tool and transmit the ID from the RL transmitter to check "Latest reception ID".	Is "Latest reception ID" updated?	Go to step <b>8</b> .	Replace the RL transmitter.
<b>8 CHECK RL TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the tire 4 registered ID.	Are the two IDs same?	Go to step <b>9</b> .	Record the received ID update as the RL transmitter. Go to step <b>9</b> .
<b>9 CHECK MALFUNCTION TRANSMITTER.</b>	Is ID recorded by this procedure?	Go to step <b>10</b> .	Replace the transmitter indicated by diagnostics trouble code (DTC).
<b>10 CHECK MALFUNCTION TRANSMITTER.</b> Check the registered ID of the transmitter indicated by DTC.	Is there checked ID in the record?	Replace the transmitter of the recorded position.	Replace the transmitter indicated by diagnostics trouble code (DTC).

### **Q: DTC C2421 TRANSMITTER 1 BATTERY VOLTAGE DECREASE**

NOTE:

Refer to DTC C2424 for diagnostic procedure. <Ref. to TPM(diag)-29, DTC C2424 TRANSMITTER 4 BATTERY VOLTAGE DECREASE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### **R: DTC C2422 TRANSMITTER 2 BATTERY VOLTAGE DECREASE**

NOTE:

Refer to DTC C2424 for diagnostic procedure. <Ref. to TPM(diag)-29, DTC C2424 TRANSMITTER 4 BATTERY VOLTAGE DECREASE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### **S: DTC C2423 TRANSMITTER 3 BATTERY VOLTAGE DECREASE**

NOTE:

Refer to DTC C2424 for diagnostic procedure. <Ref. to TPM(diag)-29, DTC C2424 TRANSMITTER 4 BATTERY VOLTAGE DECREASE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### **T: DTC C2424 TRANSMITTER 4 BATTERY VOLTAGE DECREASE**

**DTC DETECTING CONDITION:**

Low battery signals received 20 times from each transmitter.

**TROUBLE SYMPTOM:**

Tire pressure warning light blinks 25 times and then illuminates.

Step	Check	Yes	No
1 <b>CHECK TRANSMITTER.</b> 1) Replace all transmitters and register their IDs. <Ref. to TPM(diag)-13, OPERATION, Register Transmitter (ID).> 2) Perform the Clear Memory Mode, and perform driving test.	Is the fault eliminated?	Internal battery of the transmitter had worn out.	Replace the TPMS & keyless entry control module.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

## TIRE PRESSURE MONITORING SYSTEM (DIAGNOSTICS)

### U: DTC C2521 VEHICLE SPEED IS ABNORMAL

#### DTC DETECTING CONDITION:

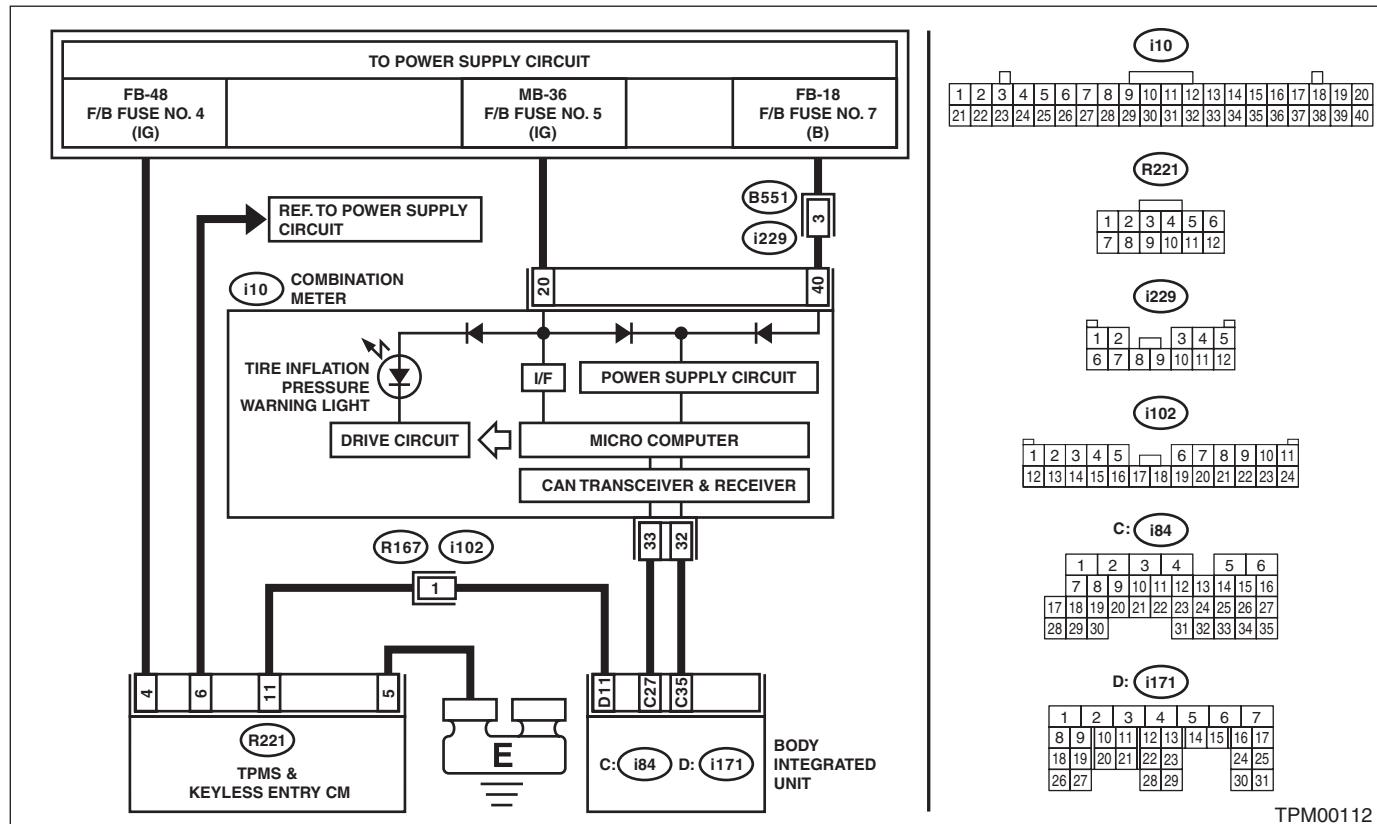
Vehicle speed function codes were received from the transmitter, but the vehicle speed signal was not input to the module.

#### TROUBLE SYMPTOM:

Tire pressure warning light blinks 25 times and then illuminates.

#### WIRING DIAGRAM:

Tire Pressure Monitoring System <Ref. to WI-148, WIRING DIAGRAM, Tire Pressure Monitoring System.>



Step	Check	Yes	No
1 <b>CHECK LAN COMMUNICATION.</b> Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is there any fault?	Repair it according to the diagnosis for LAN system.	Go to step 2.
2 <b>CHECK HARNESS.</b> Measure the resistance between TPMS & keyless entry control module and body integrated unit. <i>Connector &amp; terminal (R221) No. 11 — (i171) No. 11:</i>	Is the resistance less than 10 $\Omega$ ?	Go to step 3.	Repair the harness.
3 <b>CHECK CONNECTOR.</b> Check each connector.	Is there poor contact or any other faults?	Repair the connector.	Replace the TPMS & keyless entry control module.