

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

#### A: DTC 11 FL AIR PRESSURE DECREASE

NOTE:

Refer to DTC 14 for the diagnostic procedure. <Ref. to TPM(diag)-30, DTC 14 RL AIR PRESSURE DECREASE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

#### B: DTC 12 FR AIR PRESSURE DECREASE

NOTE:

Refer to DTC 14 for the diagnostic procedure. <Ref. to TPM(diag)-30, DTC 14 RL AIR PRESSURE DECREASE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

#### C: DTC 13 RR AIR PRESSURE DECREASE

NOTE:

Refer to DTC 14 for the diagnostic procedure. <Ref. to TPM(diag)-30, DTC 14 RL AIR PRESSURE DECREASE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

## Diagnostic Procedure with Diagnostic Trouble Code (DTC)

### TIRE PRESSURE MONITORING SYSTEM (DIAGNOSTICS)

#### D: DTC 14 RL AIR PRESSURE DECREASE

##### DTC DETECTING CONDITION:

Inflation pressure of tires dropped under specifications (180 kPa (1.8 kgf/cm<sup>2</sup>, 26.1 psi) or less).

##### TROUBLE SYMPTOM:

Tire pressure warning light illuminates.

Step	Check	Yes	No
<b>1</b> <b>CHECK THE TIRES.</b> Lift-up the vehicle and check for damage in the tires.	Are there cracks or damage?	Replace the tire. <Ref. to WT-5, Tire.>	Go to step 2.
<b>2</b> <b>CHECK THE TIRES.</b> Check the tire air pressure.	Is the tire pressure in the specifications?	Go to step 3.	Adjust the air pressure.
<b>3</b> <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) <Ref. to WT-11, Tire Pressure Monitoring System.>	Go to step 4.
<b>4</b> <b>PERFORM DRIVING TEST.</b> 1) Perform Clear Memory Mode. <Ref. to TPM(diag)-9, CLEAR MEMORY, OPERATION, Subaru Select Monitor.> 2) Perform a driving test. <Ref. to TPM(diag)-17, PROCEDURE, Inspection Mode.> 3) Read the DTC. <Ref. to TPM(diag)-8, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>	Is DTC displayed?	Inspect by referring to "Diagnostic Procedure with Diagnostic Trouble Code (DTC)". <Ref. to TPM(diag)-29, 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 21 NO FL TRANSMITTER DATA

##### NOTE:

Refer to DTC 24 for the diagnostic procedure. <Ref. to TPM(diag)-31, DTC 24 NO RL TRANSMITTER DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

#### F: DTC 22 NO FR TRANSMITTER DATA

##### NOTE:

Refer to DTC 24 for the diagnostic procedure. <Ref. to TPM(diag)-31, DTC 24 NO RL TRANSMITTER DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

#### G: DTC 23 NO RR TRANSMITTER DATA

##### NOTE:

Refer to DTC 24 for the diagnostic procedure. <Ref. to TPM(diag)-31, DTC 24 NO RL TRANSMITTER DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

## TIRE PRESSURE MONITORING SYSTEM (DIAGNOSTICS)

### H: DTC 24 NO RL TRANSMITTER DATA

#### DTC DETECTING CONDITION:

Data from each transmitter is not received for 10 minutes.

#### TROUBLE SYMPTOM:

Tire pressure warning light blinks.

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 "Transmitter ID". <Ref. to TPM(diag)-10, DISPLAY TRANSMITTER (ID)., OPERATION, Subaru Select Monitor.> 3) Use the transmitter registration tool and transmit the ID from the FL transmitter to check "Latest Received ID".	Is "Latest Received ID" updated?	Go to step 2.	Replace front left transmitter.
<b>2 CHECK FL TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the FL registered ID.	Are the two IDs same?	Go to step 3.	Record the received ID update as the FL transmitter. Go to step 3.
<b>3 START FR TRANSMITTER.</b> Use the transmitter registration tool and transmit the ID from the FR transmitter to check "Latest Received ID".	Is "Latest Received ID" updated?	Go to step 4.	Replace the front right transmitter.
<b>4 CHECK FR TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the FR registered ID.	Are the two IDs same?	Go to step 5.	Record the received ID update as the FR transmitter. Go to step 5.
<b>5 START RR TRANSMITTER.</b> Use the transmitter registration tool and transmit the ID from the RR transmitter to check "Latest Received ID".	Is "Latest Received ID" updated?	Go to step 6.	Replace the RR transmitter.
<b>6 CHECK RR TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the RR registered ID.	Are the two IDs same?	Go to step 7.	Record the received ID update as the RR transmitter. Go to step 7.
<b>7 START RL TRANSMITTER.</b> Use the transmitter registration tool and transmit the ID from the RL transmitter to check "Latest Received ID".	Is "Latest Received ID" updated?	Go to step 8.	Replace the RL transmitter.
<b>8 CHECK RL TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the RL registered ID.	Are the two IDs same?	Go to step 9.	Record the received ID update as the RL transmitter. Go to step 9.
<b>9 CHECK MALFUNCTION TRANSMITTER.</b>	Is ID recorded by this procedure?	Go to step 10.	Replace the transmitter indicated by 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 DTC.

#### CAUTION:

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

## **Diagnostic Procedure with Diagnostic Trouble Code (DTC)**

TIRE PRESSURE MONITORING SYSTEM (DIAGNOSTICS)

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### **I: DTC 31 FL TRANSMIT PRES DATA ABNORMAL**

NOTE:

Refer to DTC 34 for the diagnostic procedure. <Ref. to TPM(diag)-33, DTC 34 RL TRANSMIT PRES DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### **J: DTC 32 FR TRANSMIT PRES DATA ABNORMAL**

NOTE:

Refer to DTC 34 for the diagnostic procedure. <Ref. to TPM(diag)-33, DTC 34 RL TRANSMIT PRES DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### **K: DTC 33 RR TRANSMIT PRES DATA ABNORMAL**

NOTE:

Refer to DTC 34 for the diagnostic procedure. <Ref. to TPM(diag)-33, DTC 34 RL TRANSMIT PRES DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

## TIRE PRESSURE MONITORING SYSTEM (DIAGNOSTICS)

### L: DTC 34 RL TRANSMIT PRES 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.

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 "Transmitter ID". <Ref. to TPM(diag)-10, DISPLAY TRANSMITTER (ID)., OPERATION, Subaru Select Monitor.> 3) Use the transmitter registration tool and transmit the ID from the FL transmitter to check "Latest Received ID".	Is "Latest Received ID" updated?	Go to step 2.	Replace front left transmitter.
<b>2 CHECK FL TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the FL registered ID.	Are the two IDs same?	Go to step 3.	Record the received ID update as the FL transmitter. Go to step 3.
<b>3 START FR TRANSMITTER.</b> Use the transmitter registration tool and transmit the ID from the FR transmitter to check "Latest Received ID".	Is "Latest Received ID" updated?	Go to step 4.	Replace the front right transmitter.
<b>4 CHECK FR TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the FR registered ID.	Are the two IDs same?	Go to step 5.	Record the received ID update as the FR transmitter. Go to step 5.
<b>5 START RR TRANSMITTER.</b> Use the transmitter registration tool and transmit the ID from the RR transmitter to check "Latest Received ID".	Is "Latest Received ID" updated?	Go to step 6.	Replace the RR transmitter.
<b>6 CHECK RR TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the RR registered ID.	Are the two IDs same?	Go to step 7.	Record the received ID update as the RR transmitter. Go to step 7.
<b>7 START RL TRANSMITTER.</b> Use the transmitter registration tool and transmit the ID from the RL transmitter to check "Latest Received ID".	Is "Latest Received ID" updated?	Go to step 8.	Replace the RL transmitter.
<b>8 CHECK RL TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the RL registered ID.	Are the two IDs same?	Go to step 9.	Record the received ID update as the RL transmitter. Go to step 9.
<b>9 CHECK MALFUNCTION TRANSMITTER.</b>	Is ID recorded by this procedure?	Go to step 10.	Replace the transmitter indicated by 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 DTC.

## **Diagnostic Procedure with Diagnostic Trouble Code (DTC)**

TIRE PRESSURE MONITORING SYSTEM (DIAGNOSTICS)

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### **M: DTC 41 FL TRANS FUNCTION CODE ABNORMAL**

NOTE:

Refer to DTC 44 for the diagnostic procedure. <Ref. to TPM(diag)-35, DTC 44 RL TRANS FUNCTION CODE ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### **N: DTC 42 FR TRANS FUNCTION CODE ABNORMAL**

NOTE:

Refer to DTC 44 for the diagnostic procedure. <Ref. to TPM(diag)-35, DTC 44 RL TRANS FUNCTION CODE ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### **O: DTC 43 RR TRANS FUNCTION CODE ABNORMAL**

NOTE:

Refer to DTC 44 for the diagnostic procedure. <Ref. to TPM(diag)-35, DTC 44 RL TRANS FUNCTION CODE ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

TIRE PRESSURE MONITORING SYSTEM (DIAGNOSTICS)

## P: DTC 44 RL TRANS FUNCTION CODE ABNORMAL

### DTC DETECTING CONDITION:

Unexpected function codes received from each transmitter.

### TROUBLE SYMPTOM:

Tire pressure warning light blinks.

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 "Transmitter ID". <Ref. to TPM(diag)-10, DISPLAY TRANSMITTER (ID)., OPERATION, Subaru Select Monitor.> 3) Use the transmitter registration tool and transmit the ID from the FL transmitter to check "Latest Received ID".	Is "Latest Received ID" updated?	Go to step 2.	Replace front left transmitter.
<b>2 CHECK FL TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the FL registered ID.	Are the two IDs same?	Go to step 3.	Record the received ID update as the FL transmitter. Go to step 3.
<b>3 START FR TRANSMITTER.</b> Use the transmitter registration tool and transmit the ID from the FR transmitter to check "Latest Received ID".	Is "Latest Received ID" updated?	Go to step 4.	Replace the front right transmitter.
<b>4 CHECK FR TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the FR registered ID.	Are the two IDs same?	Go to step 5.	Record the received ID update as the FR transmitter. Go to step 5.
<b>5 START RR TRANSMITTER.</b> Use the transmitter registration tool and transmit the ID from the RR transmitter to check "Latest Received ID".	Is "Latest Received ID" updated?	Go to step 6.	Replace the RR transmitter.
<b>6 CHECK RR TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the RR registered ID.	Are the two IDs same?	Go to step 7.	Record the received ID update as the RR transmitter. Go to step 7.
<b>7 START RL TRANSMITTER.</b> Use the transmitter registration tool and transmit the ID from the RL transmitter to check "Latest Received ID".	Is "Latest Received ID" updated?	Go to step 8.	Replace the RL transmitter.
<b>8 CHECK RL TRANSMITTER ID.</b> Check the ID displayed in the updated ID display and the RL registered ID.	Are the two IDs same?	Go to step 9.	Record the received ID update as the RL transmitter. Go to step 9.
<b>9 CHECK MALFUNCTION TRANSMITTER.</b>	Is ID recorded by this procedure?	Go to step 10.	Replace the transmitter indicated by 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 DTC.

## Diagnostic Procedure with Diagnostic Trouble Code (DTC)

### TIRE PRESSURE MONITORING SYSTEM (DIAGNOSTICS)

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#### **Q: DTC 51 FL TRANSMIT BATTERY LOW VOLTAGE**

**NOTE:**

Refer to DTC 54 for the diagnostic procedure. <Ref. to TPM(diag)-36, DTC 54 RL TRANSMIT BATTERY LOW VOLTAGE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

#### **R: DTC 52 FR TRANSMIT BATTERY LOW VOLTAGE**

**NOTE:**

Refer to DTC 54 for the diagnostic procedure. <Ref. to TPM(diag)-36, DTC 54 RL TRANSMIT BATTERY LOW VOLTAGE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

#### **S: DTC 53 RR TRANSMIT BATTERY LOW VOLTAGE**

**NOTE:**

Refer to DTC 54 for the diagnostic procedure. <Ref. to TPM(diag)-36, DTC 54 RL TRANSMIT BATTERY LOW VOLTAGE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

#### **T: DTC 54 RL TRANSMIT BATTERY LOW VOLTAGE**

**DTC DETECTING CONDITION:**

Low battery signals received 20 times from each transmitter.

**TROUBLE SYMPTOM:**

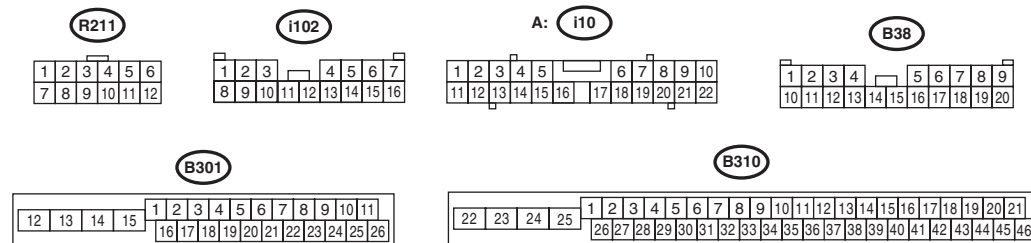
Tire pressure warning light blinks.

Step	Check	Yes	No
<b>1</b> <b>CHECK TRANSMITTER.</b> 1) Replace all transmitters and register their IDs. <Ref. to TPM(diag)-9, REGISTER TRANSMITTER ID, OPERATION, Subaru Select Monitor.> 2) Perform the Clear Memory Mode, and perform driving test.	Is the fault eliminated?	Internal battery of the transmitter had worn out.	Replace the tire pressure monitoring control module. <Ref. to WT-11, REMOVAL, Tire Pressure Monitoring System.>



## TIRE PRESSURE MONITORING SYSTEM (DIAGNOSTICS)

### WIRING DIAGRAM:



TPM(diag)-37

## Diagnostic Procedure with Diagnostic Trouble Code (DTC)

### TIRE PRESSURE MONITORING SYSTEM (DIAGNOSTICS)

Step		Check	Yes	No
1	<b>CHECK TIRE PRESSURE MONITORING CONTROL MODULE.</b> 1) Connect an oscilloscope to the terminal No. 4 of the tire pressure monitoring control module connector (R211) 2) Drive the vehicle at 40 km/h (25 MPH) and check the vehicle speed signal at that time.	Is the vehicle speed being input?	Replace the tire pressure monitoring control module. <Ref. to WT-11, Tire Pressure Monitoring System.>	Go to step 2.
2	<b>CHECK HARNESS.</b> 1) Disconnect the combination meter connector (i10). 2) Connect the tire pressure monitoring control module connector (R211) and combination meter connector (i10) and measure the resistance.	Is the resistance less than 0.5 $\Omega$ ?	Check the combination meter. <Ref. to IDI-19, REMOVAL, Combination Meter.>	Repair or replace the open circuit of the harness.