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)-27, 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)-27, 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)-27, 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)-15, LIST, Read Current Data.>
TROUBLE SYMPTOM:
Tire pressure warning light illuminates.

	Step	Check	Yes	No
1	**CHECK TIRES.** Lift up the vehicle and check for damage in the tires.	Are there cracks or damage?	Replace the tire.	Go to step **2**.
2	**CHECK TIRES.** Check the tire air pressure.	Is the tire pressure in the specifications?	Go to step **3**.	Adjust the air pressure.
3	**CHECK TRANSMITTER.** 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-8, Tire Pressure Monitoring System.>	Go to step **4**.
4	**PERFORM DRIVING TEST.** 1) Perform the Clear Memory Mode. <Ref. to TPM(diag)-14, OPERATION, Clear Memory Mode.> 2) Perform a driving test. <Ref. to TPM(diag)-18, PROCEDURE, Inspection Mode.> 3) Read the DTC. <Ref. to TPM(diag)-13, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Inspect by referring to “Diagnostic Procedure with Diagnostic Trouble Code (DTC)”. <Ref. to TPM(diag)-26, 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)-28, 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)-28, 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)-28, DTC C2124 TRANSMITTER 4 NO DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

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	**CHECK FOR REPRODUCTION OF MALFUNCTION.** 1) Perform the drive test. Drive the vehicle at 40 km/h (25 MPH) or faster for at least 10 minutes. 2) Read the DTC. <Ref. to TPM(diag)-13, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is the DTC displayed as "Current malfunction"?	Go to step **2**.	When DTC is detected as "Past faults", the circuit has returned to a normal condition at this time. Reproduce the failure, and then perform the diagnosis again. NOTE: In this case, a temporary communication error due to radio wave environment inside and outside the vehicle may be possible.
2	**START FL TRANSMITTER.** 1) Connect the Subaru Select Monitor and then turn the ignition switch to ON. 2) Select "Transmit ID data monitor". <Ref. to TPM(diag)-17, 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 **3**.	Replace front left transmitter. <Ref. to WT-8, Tire Pressure Monitoring System.>
3	**CHECK FL TRANSMITTER ID.** Check the ID displayed in the updated ID display and the tire 1 registered ID.	Are the two IDs same?	Go to step **4**.	Record the received ID update as the FL transmitter. Go to step **4**.
4	**START FR TRANSMITTER.** 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 **5**.	Replace the front right transmitter. <Ref. to WT-8, Tire Pressure Monitoring System.>
5	**CHECK FR TRANSMITTER ID.** Check the ID displayed in the updated ID display and the tire 2 registered ID.	Are the two IDs same?	Go to step **6**.	Record the received ID update as the FR transmitter. Go to step **6**.
6	**START RR TRANSMITTER.** 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 **7**.	Replace the RR transmitter. <Ref. to WT-8, Tire Pressure Monitoring System.>
7	**CHECK RR TRANSMITTER ID.** Check the ID displayed in the updated ID display and the tire 3 registered ID.	Are the two IDs same?	Go to step **8**.	Record the received ID update as the RR transmitter. Go to step **8**.

	Step	Check	Yes	No
8	**START RL TRANSMITTER.** 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 **9**.	Replace the RL transmitter. <Ref. to WT-8, Tire Pressure Monitoring System.>
9	**CHECK RL TRANSMITTER ID.** Check the ID displayed in the updated ID display and the tire 4 registered ID.	Are the two IDs same?	Go to step **10**.	Record the received ID update as the RL transmitter. Go to step **10**.
10	**CHECK MALFUNCTION TRANSMITTER.**	Is ID recorded by this procedure?	Go to step **11**.	Go to step **2**.
11	**CHECK MALFUNCTION TRANSMITTER.** Check the registered ID of the transmitter indicated by DTC.	Is there checked ID in the record?	Replace the transmitter of the recorded position. <Ref. to WT-8, Tire Pressure Monitoring System.>	Replace the transmitter showing the latest ID that is not included in the registered IDs. <Ref. to WT-8, Tire Pressure Monitoring System.>

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)-30, 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)-30, 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)-30, DTC C2224 TRANSMITTER 4 PRESSURE DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

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	**CHECK FOR REPRODUCTION OF MALFUNCTION.** 1) Perform the drive test. Drive the vehicle at 40 km/h (25 MPH) or faster for at least 10 minutes. 2) Read the DTC. <Ref. to TPM(diag)-13, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is the DTC displayed as "Current malfunction"?	Go to step **2**.	When DTC is detected as "Past faults", the circuit has returned to a normal condition at this time. Reproduce the failure, and then perform the diagnosis again. NOTE: In this case, a temporary communication error due to radio wave environment inside and outside the vehicle may be possible.
2	**START FL TRANSMITTER.** 1) Connect the Subaru Select Monitor and then turn the ignition switch to ON. 2) Select "Transmit ID data monitor". <Ref. to TPM(diag)-17, 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 **3**.	Replace front left transmitter. <Ref. to WT-8, Tire Pressure Monitoring System.>
3	**CHECK FL TRANSMITTER ID.** Check the ID displayed in the updated ID display and the tire 1 registered ID.	Are the two IDs same?	Go to step **4**.	Record the received ID update as the FL transmitter. Go to step **4**.
4	**START FR TRANSMITTER.** 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 **5**.	Replace the front right transmitter. <Ref. to WT-8, Tire Pressure Monitoring System.>
5	**CHECK FR TRANSMITTER ID.** Check the ID displayed in the updated ID display and the tire 2 registered ID.	Are the two IDs same?	Go to step **6**.	Record the received ID update as the FR transmitter. Go to step **6**.
6	**START RR TRANSMITTER.** 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 **7**.	Replace the RR transmitter. <Ref. to WT-8, Tire Pressure Monitoring System.>
7	**CHECK RR TRANSMITTER ID.** Check the ID displayed in the updated ID display and the tire 3 registered ID.	Are the two IDs same?	Go to step **8**.	Record the received ID update as the RR transmitter. Go to step **8**.

	Step	Check	Yes	No
8	**START RL TRANSMITTER.** 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 **9**.	Replace the RL transmitter. <Ref. to WT-8, Tire Pressure Monitoring System.>
9	**CHECK RL TRANSMITTER ID.** Check the ID displayed in the updated ID display and the tire 4 registered ID.	Are the two IDs same?	Go to step **10**.	Record the received ID update as the RL transmitter. Go to step **10**.
10	**CHECK MALFUNCTION TRANSMITTER.**	Is ID recorded by this procedure?	Go to step **11**.	Go to step **2**.
11	**CHECK MALFUNCTION TRANSMITTER.** Check the registered ID of the transmitter indicated by DTC.	Is there checked ID in the record?	Replace the transmitter of the recorded position. <Ref. to WT-8, Tire Pressure Monitoring System.>	Replace the transmitter showing the latest ID that is not included in the registered IDs. <Ref. to WT-8, Tire Pressure Monitoring System.>

M: DTC C2321 TRANSMITTER 1 FUNCTION CODE ABNORMAL

NOTE:
Refer to DTC C2324 for diagnostic procedure. <Ref. to TPM(diag)-32, 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)-32, 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)-32, DTC C2324 TRANSMITTER 4 FUNCTION CODE ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

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
1	**CHECK FOR REPRODUCTION OF MALFUNCTION.** 1) Perform the drive test. Drive the vehicle at 40 km/h (25 MPH) or faster for at least 10 minutes. 2) Read the DTC. <Ref. to TPM(diag)-13, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is the DTC displayed as "Current malfunction"?	Go to step **2**.	When DTC is detected as "Past faults", the circuit has returned to a normal condition at this time. Reproduce the failure, and then perform the diagnosis again. NOTE: In this case, a temporary communication error due to radio wave environment inside and outside the vehicle may be possible.
2	**START FL TRANSMITTER.** 1) Connect the Subaru Select Monitor and then turn the ignition switch to ON. 2) Select "Transmit ID data monitor". <Ref. to TPM(diag)-17, 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 **3**.	Replace front left transmitter. <Ref. to WT-8, Tire Pressure Monitoring System.>
3	**CHECK FL TRANSMITTER ID.** Check the ID displayed in the updated ID display and the tire 1 registered ID.	Are the two IDs same?	Go to step **4**.	Record the received ID update as the FL transmitter. Go to step **4**.
4	**START FR TRANSMITTER.** 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 **5**.	Replace the front right transmitter. <Ref. to WT-8, Tire Pressure Monitoring System.>
5	**CHECK FR TRANSMITTER ID.** Check the ID displayed in the updated ID display and the tire 2 registered ID.	Are the two IDs same?	Go to step **6**.	Record the received ID update as the FR transmitter. Go to step **6**.
6	**START RR TRANSMITTER.** 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 **7**.	Replace the RR transmitter. <Ref. to WT-8, Tire Pressure Monitoring System.>
7	**CHECK RR TRANSMITTER ID.** Check the ID displayed in the updated ID display and the tire 3 registered ID.	Are the two IDs same?	Go to step **8**.	Record the received ID update as the RR transmitter. Go to step **8**.

	Step	Check	Yes	No
8	**START RL TRANSMITTER.** 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 **9**.	Replace the RL transmitter. <Ref. to WT-8, Tire Pressure Monitoring System.>
9	**CHECK RL TRANSMITTER ID.** Check the ID displayed in the updated ID display and the tire 4 registered ID.	Are the two IDs same?	Go to step **10**.	Record the received ID update as the RL transmitter. Go to step **10**.
10	**CHECK MALFUNCTION TRANSMITTER.**	Is ID recorded by this procedure?	Go to step **11**.	Replace the transmitter indicated by diagnostics trouble code (DTC). <Ref. to WT-8, Tire Pressure Monitoring System.>
11	**CHECK MALFUNCTION TRANSMITTER.** Check the registered ID of the transmitter indicated by DTC.	Is there checked ID in the record?	Replace the transmitter of the recorded position. <Ref. to WT-8, Tire Pressure Monitoring System.>	Replace the transmitter indicated by diagnostics trouble code (DTC). <Ref. to WT-8, Tire Pressure Monitoring System.>

Q: DTC C2421 TRANSMITTER 1 BATTERY VOLTAGE DECREASE

NOTE:
Refer to DTC C2424 for diagnostic procedure. <Ref. to TPM(diag)-34, 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)-34, 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)-34, 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.

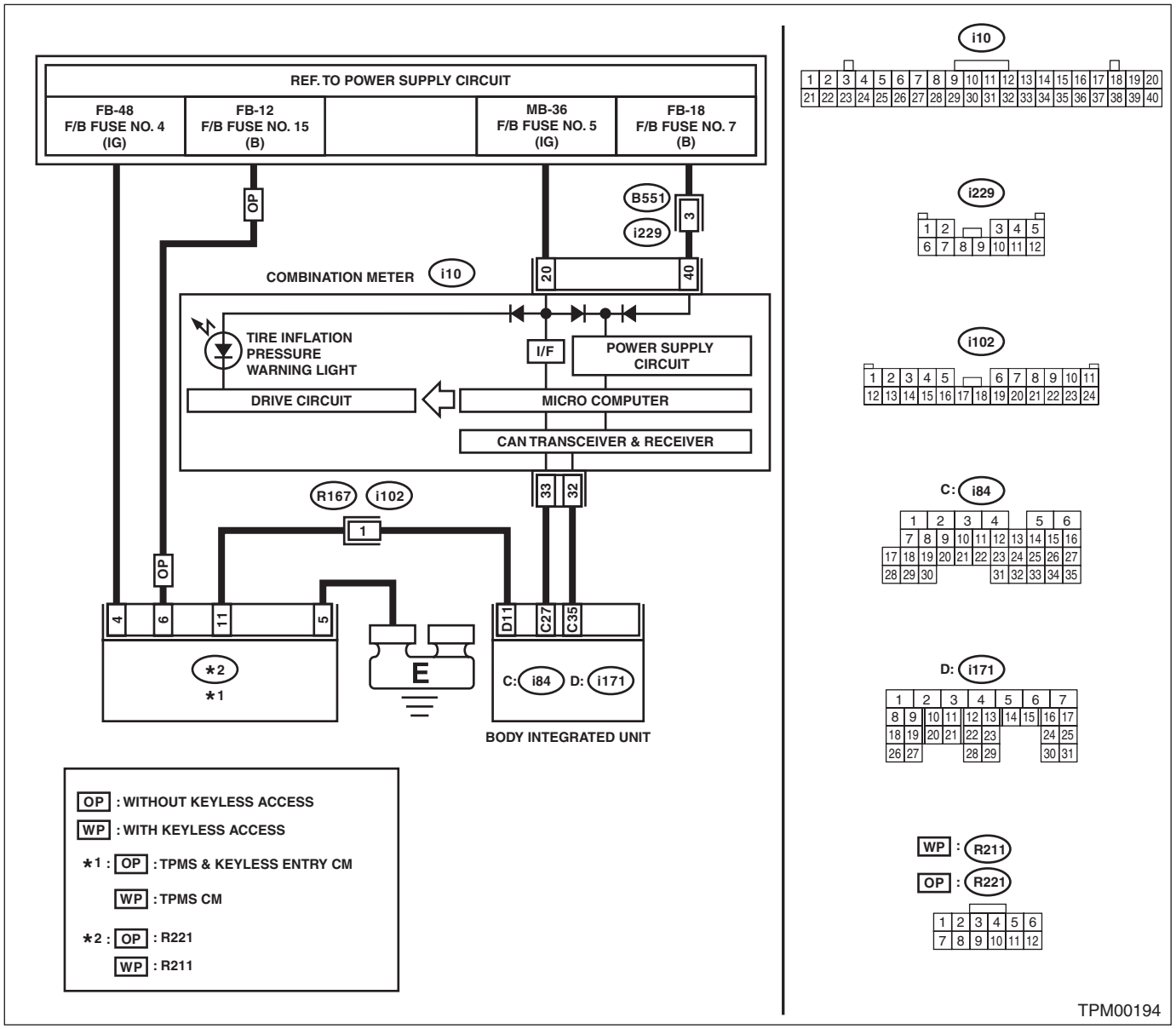
	Step	Check	Yes	No
1	**CHECK FOR REPRODUCTION OF MALFUNCTION.** 1) Perform the drive test. Drive the vehicle at 40 km/h (25 MPH) or faster for at least 10 minutes. 2) Read the DTC. <Ref. to TPM(diag)-13, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is the DTC displayed as "Current malfunction"?	Go to step **2**.	When DTC is detected as "Past faults", the circuit has returned to a normal condition at this time. Reproduce the failure, and then perform the diagnosis again. NOTE: In this case, a temporary communication error due to radio wave environment inside and outside the vehicle may be possible.
2	**CHECK TRANSMITTER.** 1) Replace all transmitters and register their IDs. <Ref. to TPM(diag)-16, 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 CM or TPMS CM. <Ref. to WT-8, Tire Pressure Monitoring System.>

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(w/o HEV)-218, WIRING DIAGRAM, Tire Pressure Monitoring System.> <Ref. to WI(HEV)-212, WIRING DIAGRAM, Tire Pressure Monitoring System.>



	Step	Check	Yes	No
1	**CHECK LAN COMMUNICATION.** Inspect LAN system. <Ref. to LAN(w/o HEV)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.> <Ref. to LAN(HEV)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is there any fault?	Repair it according to the diagnosis for LAN system.	Go to step **2**.
2	**CHECK HARNESS.** Measure the resistance between TPMS & keyless entry CM or TPMS CM and body integrated unit. ***Connector & terminal*** ***Without keyless access*** ***(R221) No. 11 — (i171) No. 11:*** ***With keyless access*** ***(R211) No. 11 — (i171) No. 11:***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair the harness.
3	**CHECK CONNECTOR.** Check each connector.	Is there poor contact or any other faults?	Repair the connector.	Replace the TPMS & keyless entry CM or TPMS CM. <Ref. to WT-8, Tire Pressure Monitoring System.>