5. Subaru Select Monitor

A: OPERATION

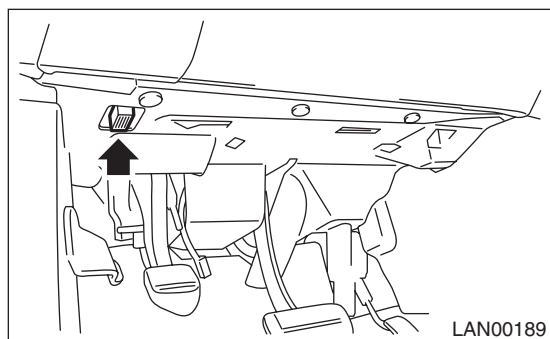### 1. READ DIAGNOSTIC TROUBLE CODE (DTC)

1) Prepare the Subaru Select Monitor kit. <Ref. to TPM(diag)-4, SPECIAL TOOL, PREPARATION TOOL, General Description.>
2) Connect the diagnosis cable to Subaru Select Monitor.
3) Connect the Subaru Select Monitor to data link connector.

   (1) Data link connector is located in the lower portion of instrument panel (on the driver's side).

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   (2) Connect the diagnosis cable to data link connector.

CAUTION:
Do not connect scan tools other than the Subaru Select Monitor.

4) Turn the ignition switch to ON and run the Subaru Select Monitor.
5) On «Main Menu» display, select {Each System Check}.
6) On «System Selection Menu» display, select {Tire pressure monitor}.
7) After {System Name} is displayed, select [OK].
8) On «Tire pressure monitor diagnosis» display, select {Diagnostic Code(s) Display}.

NOTE:
• For detailed operation procedures, refer to "PC application help for Subaru Select Monitor".
• For details concerning DTCs, refer to List of Diagnostic Trouble Code (DTC). <Ref. to TPM(diag)-22, List of Diagnostic Trouble Code (DTC).>
• All DTCs detected will be displayed.
• If a particular DTC is not properly stored in memory (due to a voltage drop of the TPMS & keyless entry control module power supply, etc.) when a problem occurs, a DTC suffixed with a question mark will appear on the Subaru Select Monitor display. This shows it may be an unreliable reading.

9) If TPMS & keyless entry control module and Subaru Select Monitor cannot communicate, check the communication circuit. <Ref. to TPM(diag)-10, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, INSPECTION, Subaru Select Monitor.>
10) When DTC is not displayed, check the indicator circuit and communication circuit. <Ref. to TPM(diag)-16, Tire Pressure Warning Light / Trouble Indicator Light Illumination Pattern.>

2. DATA DISPLAY

1) On «Main Menu» display, select {Each System Check}.
2) On «System Selection Menu» display, select {Tire pressure monitor}.
3) After the {Tire pressure monitor} is displayed, select [OK].
4) On «Tire pressure monitor diagnosis» display, select {Data Display}, and then necessary data will be displayed.
• A list of the support data is shown in the following table.

Display	Contents to be displayed	Unit of measure
Tire 1 FN code	LEARN, LOW BAT, OFF, WAKE, RE ME, NORMAL	LEARN: Transmitted transmitter ID using the transmitter registration tool LOW BAT: Transmitter battery voltage running low OFF: Transmitter function stops (no data transmission) RE ME: Tire air changes ±8.4 kPa WAKE: When data transmission is started from a stopped state. NORMAL: Conditions other than above
Tire 2 FN code		
Tire 3 FN code		
Tire 4 FN code		
Tire 1 air pressure	Value converted to tire pressure from data delivered from transmitter is displayed. (The figure may differ from the actual measured values.)	kPa, psig, mmHg, inHg
Tire 2 air pressure		kPa, psig, mmHg, inHg
Tire 3 air pressure		kPa, psig, mmHg, inHg
Tire 4 air pressure		kPa, psig, mmHg, inHg
Vehicle Speed	Vehicle speed signal which is input in control module	km/h, MPH
Pressure warning	Threshold where tire pressure warning light illuminates	kPa, psig, mmHg, inHg
Return pressure	Threshold where tire pressure warning light goes out	kPa, psig, mmHg, inHg

3. CLEAR MEMORY

1) On «Main Menu» display, select {Each System Check}.
2) On «System Selection Menu» display, select {Tire pressure monitor}.
3) After the {Tire pressure monitor} is displayed, select [OK].
4) On «Tire pressure monitor diagnosis» display, select {Clear Memory}.
5) When "Done" "Turn ignition switch to OFF" are shown on the display screen, end the Subaru Select Monitor and turn the ignition switch to OFF.

NOTE:
For details concerning the operation procedure, refer to "PC application help for Subaru Select Monitor".

4. REGISTER TRANSMITTER (ID)

Perform the registration procedure of the transmitter in the following cases:
• Transmitter replaced.
• TPMS & keyless entry control module replaced.

NOTE:
• If registration of the transmitter ID is not possible after 2 attempts, replace TPMS & keyless entry control module. <Ref. to WT-9, TPMS & KEYLESS ENTRY CONTROL MODULE, REMOVAL, Tire Pressure Monitoring System.>
• If the ignition switch is turned OFF or the Subaru Select Monitor is shut down while registering the transmitter, or if the registration is not performed for 5 minutes or more, the registration mode is cancelled.
• When rotating tires, there is no affect on the performance or functions of the tire pressure monitoring control module even if the transmitter (ID) is not registered, however, the tire position displayed on the Subaru Select Monitor will be incorrect.

1) Adjust all tire pressures to the specifications.

NOTE:
Refer to the tire caution label on the driver's side door for the correct tire pressure.

2) Connect Subaru Select Monitor and select the {Each System Check} on the «Main Menu».

3) On «System Selection Menu» display, select {Tire pressure monitor}.

4) After the {Tire pressure monitor} is displayed, select [OK].

5) On «Tire pressure monitor diagnosis» display, select {Transmitter ID regist confirm}.

6) {ID registration mode When execute Registered ID is deleted. Continue?} is displayed, select [OK].

7) Contact the transmitter registration tool to the side wall area near the air valve on the tire, and press the switch. The transmitter ID is sent to the TPMS & keyless entry control module. (At this time, the tire pressure warning light blinks to confirm that the registration has started.)

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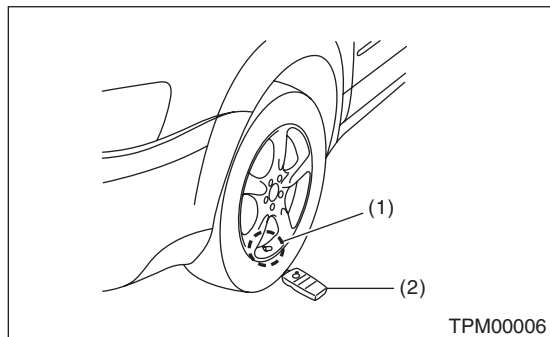
(1) Air valve (transmitter)

(2) Transmitter registration tool

NOTE:
• The registration order of transmitter ID is not specified.

• The transmitter registration tool is used by touching the side wall area near the transmitter.

• If registration procedure stop in the halfway (turning ignition switch to OFF, wrong registration order, etc), proceed from step 5).

8) When ID registration is completed, the tire pressure warning light remains lit for approximately 2 seconds, to end the registration. Switch to the screen displaying the transmitter ID on the Subaru Select Monitor display. <Ref. to TPM(diag)-9, DISPLAY TRANSMITTER (ID), OPERATION, Subaru Select Monitor.>

9) Check the transmitter ID that was registered, then perform a driving test. <Ref. to TPM(diag)-14, PROCEDURE, Inspection Mode.>

5. DISPLAY TRANSMITTER (ID)

1) On the «Main Menu», select {Each System Check}.

2) On the «System Selection Menu», select {Tire pressure monitor}.

3) After the {Tire pressure monitor} is displayed, select [OK].

4) On the «Tire pressure monitor diagnosis», select {Transmitter ID regist confirm}.

5) Select the {Transmitter ID data monitor} to display the transmitter ID.

B: INSPECTION

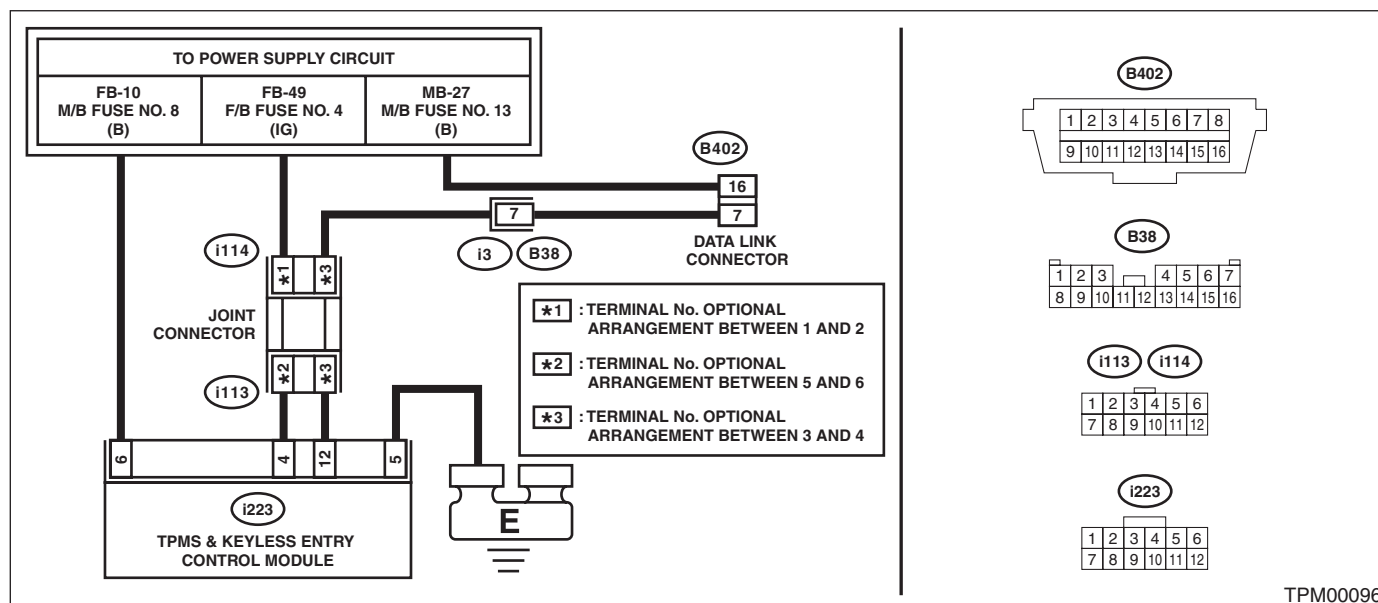## 1. COMMUNICATION FOR INITIALIZING IMPOSSIBLE

DETECTING CONDITION:
Defective harness connector

TROUBLE SYMPTOM:
Communication is impossible between the TPMS & keyless entry control module and the Subaru Select Monitor.

WIRING DIAGRAM:
Tire pressure monitoring system <Ref. to WI-62, WIRING DIAGRAM, Tire Pressure Monitoring System.>

TPM00096

	Step	Check	Yes	No
1	**CHECK IGNITION SWITCH.**	Is the ignition switch ON?	Go to step **2**.	Turn the ignition switch to ON, and select TPM mode using Subaru Select Monitor.
2	**CHECK BATTERY.**	Is the voltage 11 V or more?	Go to step **3**.	Charge or replace the battery.
3	**CHECK BATTERY TERMINAL.**	Is there poor contact at battery terminal?	Repair or tighten the battery terminal.	Go to step **4**.
4	**CHECK SUBARU SELECT MONITOR COMMUNICATION.** 1) Turn the ignition switch to ON. 2) Using the Subaru Select Monitor, check whether communication to other systems can be executed normally.	Is the system name displayed on Subaru Select Monitor?	Go to step **8**.	Go to step **5**.
5	**CHECK SUBARU SELECT MONITOR COMMUNICATION.** 1) Turn the ignition switch to OFF. 2) Disconnect the TPMS & keyless entry control module connector. 3) Turn the ignition switch to ON. 4) Check whether communication to other systems can be executed normally.	Is the system name displayed on Subaru Select Monitor?	Replace the TPMS & keyless entry control module. <Ref. to WT-9, TPMS & KEYLESS ENTRY CONTROL MODULE, REMOVAL, Tire Pressure Monitoring System.>	Go to step **6**.

	Step	Check	Yes	No

6	**CHECK HARNESS CONNECTOR BETWEEN EACH CONTROL MODULE AND DATA LINK CONNECTOR.**
	 1) Turn the ignition switch to OFF.
	 2) Disconnect the TPMS & keyless entry control module.
	 3) Measure the resistance between data link connector and chassis ground.
	    Connector & terminal
	    (B402) No. 7 — Chassis ground:
		Is the resistance 1 MΩ or more?	Go to step **7**.	Repair the harness and connector between each control module and data link connector.

7	**CHECK OUTPUT SIGNAL TO TPMS & KEYLESS ENTRY CONTROL MODULE.**
	 1) Turn the ignition switch to ON.
	 2) Measure the voltage between TPMS & keyless entry control module and chassis ground.
	    Connector & terminal
	    (B402) No. 7 (+) — Chassis ground (–):
		Is the voltage less than 1 V?	Go to step **8**.	Repair the harness and connector between each control module and data link connector.

8	**CHECK HARNESS CONNECTOR BETWEEN TPMS & KEYLESS ENTRY CONTROL MODULE AND DATA LINK CONNECTOR.**
	 Measure the resistance between the TPMS & keyless entry control module connector and the data link connector.
	    Connector & terminal
	    (i223) No. 12 — (B402) No. 7:
		Is the resistance less than 0.5 Ω?	Go to step **9**.	Repair the harness and connector between TPMS & keyless entry control module and data link connector.

9	**CHECK TPMS & KEYLESS ENTRY CONTROL MODULE CONNECTOR.** Turn the ignition switch to OFF.	Is TPMS & keyless entry control module connector inserted into the TPMS & keyless entry control module until it locks?	Go to step **10**.	Insert the TPMS & keyless entry control module connector into the TPMS & keyless entry control module.

10	**CHECK POWER SUPPLY CIRCUIT.**
	 1) Turn the ignition switch to ON.
	 2) Measure the ignition power supply voltage between TPMS & keyless entry control module connector and chassis ground.
	    Connector & terminal
	    (i223) No. 4 (+) — Chassis ground (–):
		Is the voltage 10 — 15 V?	Go to step **11**.	Repair open circuit of the harness between TPMS & keyless entry control module and battery.

11	**CHECK HARNESS CONNECTOR BETWEEN TPMS & KEYLESS ENTRY CONTROL MODULE AND CHASSIS GROUND.**
	 1) Turn the ignition switch to OFF.
	 2) Disconnect the connector from the TPMS & keyless entry control module.
	 3) Measure the resistance of harness between TPMS & keyless entry control module and chassis ground.
	    Connector & terminal
	    (i223) No. 5 — Chassis ground:
		Is the resistance less than 0.5 Ω?	Go to step **12**.	Repair open circuit of the harness of the TPMS & keyless entry control module.

Step	Check	Yes	No
12 **CHECK POOR CONTACT OF CONNECTOR.**	Is there poor contact of TPMS & keyless entry control module power supply, ground circuit and data link connector?	Repair the connector.	Replace the TPMS & keyless entry control module. <Ref. to WT-9, TPMS & KEYLESS ENTRY CONTROL MODULE, REMOVAL, Tire Pressure Monitoring System.>