

# Subaru Select Monitor

## TIRE PRESSURE MONITORING SYSTEM (DIAGNOSTICS)

### 5. Subaru Select Monitor

#### A: OPERATION

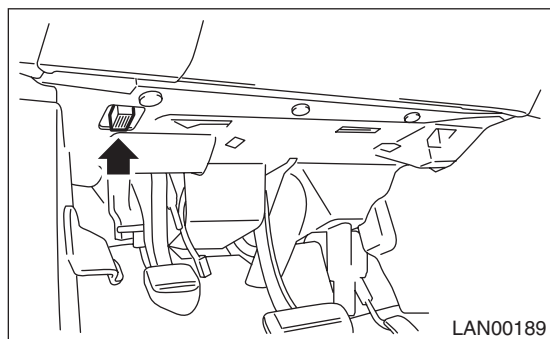
##### 1. READ DIAGNOSTIC TROUBLE CODE (DTC)

1) Prepare the Subaru Select Monitor kit. <Ref. to TPM(diag)-4, SPECIAL TOOL, PREPARATION TOOL, General Description.>

2) Connect the diagnosis cable to the Subaru Select Monitor.

3) Connect the Subaru Select Monitor to data link connector.

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



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

#### CAUTION:

**Do not connect the scan tools except for Subaru Select Monitor.**

4) Turn the ignition switch to ON (engine OFF) and run the Subaru Select Monitor.

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

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

7) Select [OK] after the {System Name} is displayed.

8) On the «Tire pressure monitor diagnosis», select {Diagnostic Code(s) Display}.

#### NOTE:

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

- For details concerning DTCs, refer to List of Diagnostic Trouble Code (DTC). <Ref. to TPM(diag)-26, List of Diagnostic Trouble Code (DTC).>

- Display all the DTCs detected.

- If a particular DTC is not properly stored in memory (due to a drop in tire pressure monitor control module power supply, etc.) when a problem occurs, the DTC which is suffixed with a question mark appears on the Subaru Select Monitor display. This shows it may be an unreliable reading.

9) If communication is not possible between the tire pressure monitoring control module and the Subaru Select Monitor, check the communication circuit. <Ref. to TPM(diag)-11, 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)-14, WITHOUT DTC, INSPECTION, Subaru Select Monitor.>

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### 2. DATA DISPLAY

- 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 the {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 $\pm 8.4$ kPa WAKE: Started transmitting data 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. (It may be different from values measured by the direct contact meter.)	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 lights	kPa, psig, mmHg, inHg
Return pressure	Threshold where tire pressure warning light goes out	kPa, psig, mmHg, inHg

### 3. CLEAR MEMORY

- 1) On the «Main Menu», select the {2. 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 {Clear Memory}.
- 5) When “Done” “Turn Ignition Switch 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 the “PC application help for Subaru Select Monitor”.

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### 4. REGISTER TRANSMITTER (ID)

Perform the procedures below to register the transmitter.

- Transmitter replaced.
- Replaced the tire pressure monitoring control module.

#### NOTE:

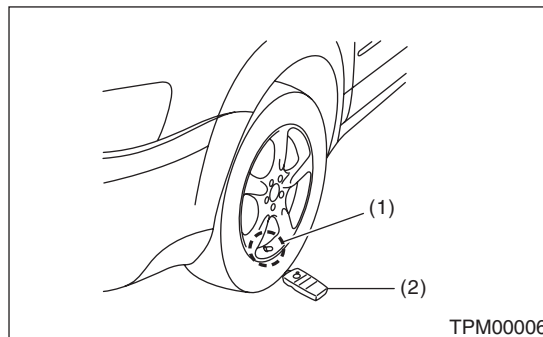
- If registration of the transmitter (ID) is not possible after 2 attempts, replace the tire pressure monitoring control module. <Ref. to WT-12, TIRE PRESSURE MONITORING CONTROL MODULE, REMOVAL, Tire Pressure Monitoring System.>
  - If the ignition switch is turned OFF or the Subaru Select Monitor is 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 {2. Each System Check} on the «Main Menu».
- 3) On the «System Selection Menu», select {Tire pressure monitor}.
- 4) After the {Tire pressure monitor} is displayed, select [OK].
- 5) On the «Tire pressure monitor diagnosis», select {Transmitter ID regist confirm}.
- 6) After the {When ID registration mode execute, Registered ID is deleted. {Continue?}} is displayed, select [OK].

7) Touch 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 tire pressure monitoring control module. (At that time, the tire pressure warning light blinks to confirm that the registration has started.)



- (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.
  - When registration of each tire is completed, the hazard light will blink and {ID registration completed} is displayed on the Select Monitor screen.
  - 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)-10, DISPLAY TRANSMITTER (ID), OPERATION, Subaru Select Monitor.>
- 9) Check the transmitter ID that was registered, then perform a driving test. <Ref. to TPM(diag)-17, 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.

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## TIRE PRESSURE MONITORING SYSTEM (DIAGNOSTICS)

### B: INSPECTION

#### 1. COMMUNICATION FOR INITIALIZING IMPOSSIBLE

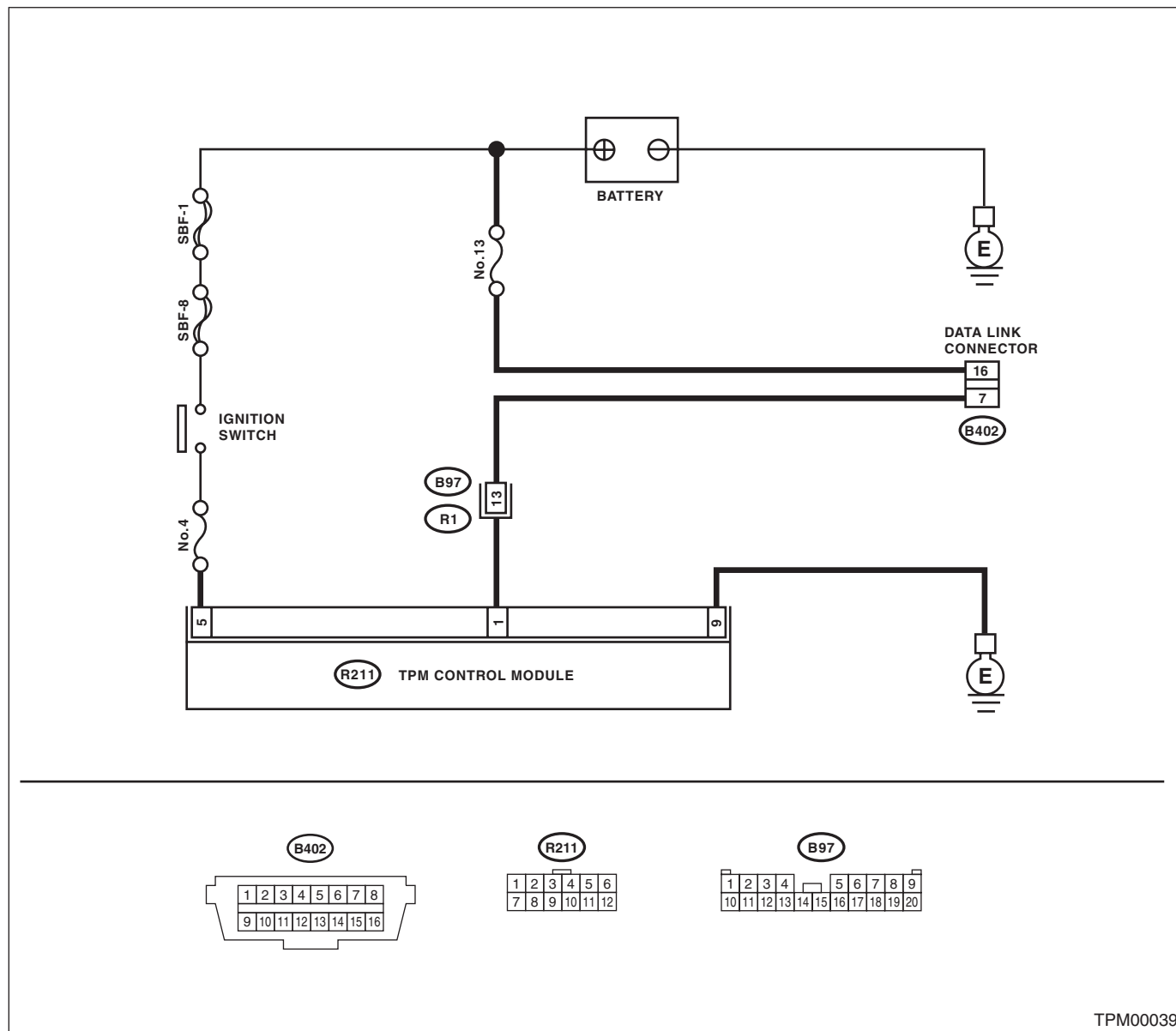
##### DETECTING CONDITION:

Defective harness connector

##### TROUBLE SYMPTOM:

Communication is impossible between the tire pressure monitoring control module and the Subaru Select Monitor.

##### WIRING DIAGRAM:



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## TIRE PRESSURE MONITORING SYSTEM (DIAGNOSTICS)

	Step	Check	Yes	No
1	<b>CHECK IGNITION SWITCH.</b>	Is the ignition switch ON?	Go to step 2.	Turn the ignition switch to ON, and select TPM mode using Subaru Select Monitor.
2	<b>CHECK BATTERY.</b>	Is the voltage 11 V or more?	Go to step 3.	Charge or replace the battery.
3	<b>CHECK BATTERY TERMINAL.</b>	Is there poor contact at battery terminal?	Repair or tighten the battery terminal.	Go to step 4.
4	<b>CHECK SUBARU SELECT MONITOR COMMUNICATION.</b> 1) Turn the ignition switch to ON. 2) Using the Subaru Select Monitor, check whether communication to other system can be executed normally.	Are the system name and model year displayed on Subaru Select Monitor?	Go to step 8.	Go to step 5.
5	<b>CHECK SUBARU SELECT MONITOR COMMUNICATION.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the tire pressure monitoring control module connector. 3) Turn the ignition switch to ON. 4) Check whether communication to other system can be executed normally.	Are the system name and model year displayed on Subaru Select Monitor?	Replace the tire pressure monitoring control module. <Ref. to WT-12, TIRE PRESSURE MONITORING CONTROL MODULE, REMOVAL, Tire Pressure Monitoring System.>	Go to step 6.
6	<b>CHECK HARNESS CONNECTOR BETWEEN EACH CONTROL MODULE AND DATA LINK CONNECTOR.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the tire pressure monitoring control module. 3) Measure the resistance between data link connector and chassis ground. <b>Connector &amp; terminal</b> <b>(B402) No. 7 — Chassis ground:</b>	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	<b>CHECK TIRE PRESSURE MONITORING CONTROL MODULE OUTPUT SIGNAL.</b> 1) Turn the ignition switch to ON. 2) Measure the voltage between tire pressure monitoring control module and chassis ground. <b>Connector &amp; terminal</b> <b>(B402) No. 7 (+) — Chassis ground (-):</b>	Is the voltage 1 V or less?	Go to step 8.	Repair the harness and connector between each control module and data link connector.
8	<b>CHECK HARNESS CONNECTOR BETWEEN TIRE PRESSURE MONITORING CONTROL MODULE AND DATA LINK CONNECTOR.</b> Measure the resistance between tire pressure monitoring control module and data link connector. <b>Connector &amp; terminal</b> <b>(R211) No. 1 — (B402) No. 7:</b>	Is the resistance 0.5 Ω or less?	Go to step 9.	Repair the harness and connector between tire pressure monitoring control module and data link connector.
9	<b>CHECK TIRE PRESSURE MONITORING CONTROL MODULE CONNECTOR.</b> Turn the ignition switch to OFF.	Is the tire pressure monitoring control module connector inserted in the tire pressure monitoring control module until it locks?	Go to step 10.	Insert the tire pressure monitoring control module connector into the tire pressure monitoring control module.

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Step	Check	Yes	No
<b>10 CHECK POWER SUPPLY CIRCUIT.</b> 1) Turn the ignition switch to ON.(engine OFF) 2) Measure the ignition power voltage between tire pressure monitoring control module connector and chassis ground. <b>Connector &amp; terminal</b> <b>(R211) No. 5 (+) — Chassis ground (-):</b>	Is the voltage 10 — 15 V?	Go to step 11.	Repair open circuit of the harness between the tire pressure monitoring control module and battery.
<b>11 CHECK HARNESS CONNECTOR BETWEEN TIRE PRESSURE MONITORING CONTROL MODULE AND CHASSIS GROUND.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the tire pressure monitoring control module. 3) Measure the resistance of harness between tire pressure monitoring control module and chassis ground. <b>Connector &amp; terminal</b> <b>(R211) No. 9 — Chassis ground:</b>	Is the resistance 0.5 $\Omega$ or less?	Go to step 12.	Repair open circuit of the harness of the tire pressure monitoring control module.
<b>12 CHECK POOR CONTACT OF CONNECTOR.</b>	Is there poor contact in tire pressure monitoring control module power supply, ground circuit and data link connector?	Repair the connector.	Replace the tire pressure monitoring control module. <Ref. to WT-12, TIRE PRESSURE MONITORING CONTROL MODULE, REMOVAL, Tire Pressure Monitoring System.>

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## TIRE PRESSURE MONITORING SYSTEM (DIAGNOSTICS)

### 2. WITHOUT DTC

#### DETECTING CONDITION:

- Defective combination meter
- Defective harness

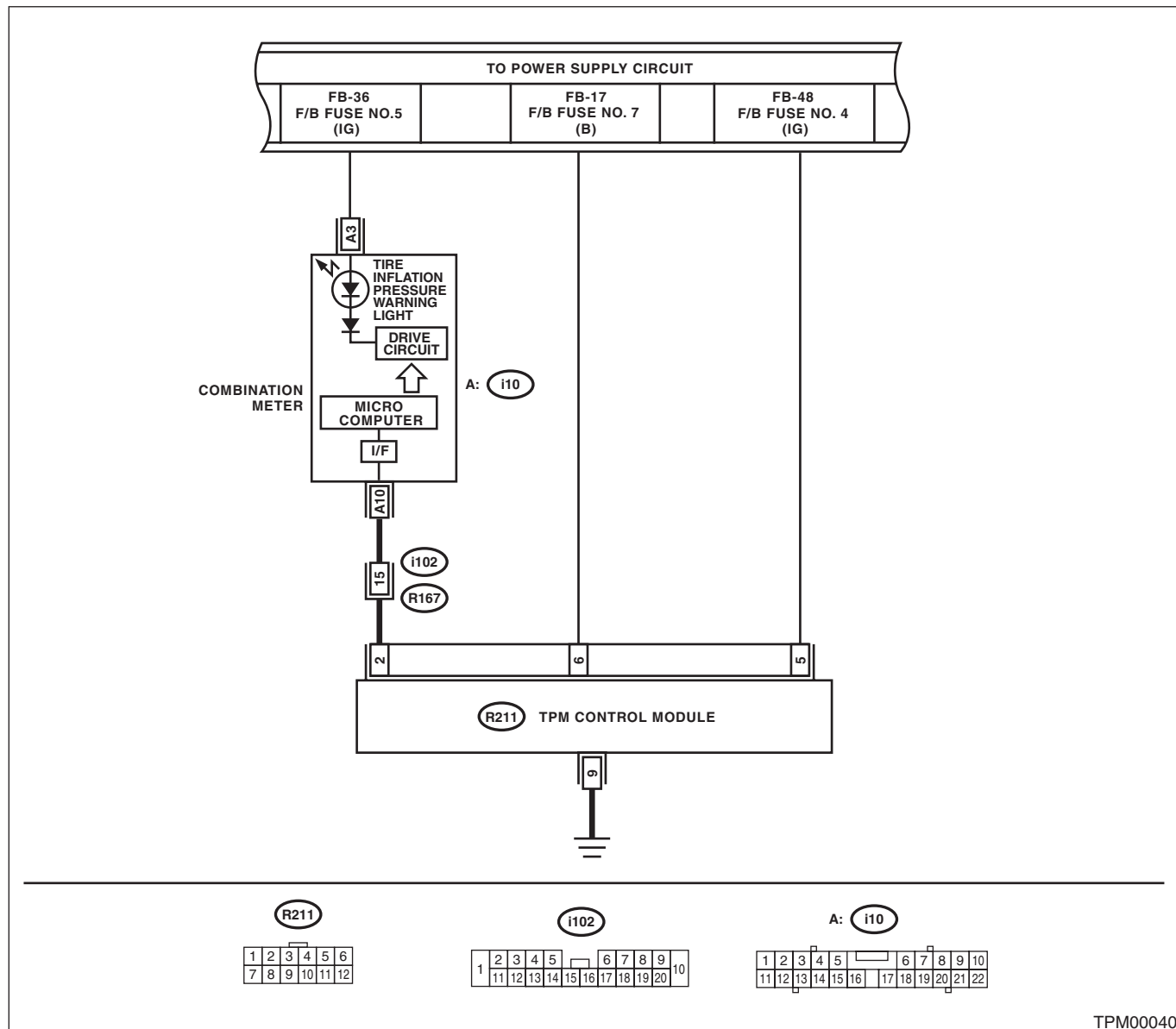
#### TROUBLE SYMPTOM:

- Tire pressure warning light does not go off.
- “NO TROUBLE CODE” will be displayed on the Subaru Select Monitor.

#### NOTE:

When the tire pressure warning light is OFF and “NO TROUBLE CODE” is displayed on Subaru Select Monitor, the system is in a normal condition.

#### WIRING DIAGRAM:



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## TIRE PRESSURE MONITORING SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
<b>1 DATA CHECK SUBARU SELECT MONITOR.</b> 1) Select {Current Data Display & Save} in Subaru Select Monitor. 2) Read the data of the "Tire pressure warning light".	Is "ON" displayed?	Replace the tire pressure monitoring control module. <Ref. to WT-12, TIRE PRESSURE MONITORING CONTROL MODULE, REMOVAL, Tire Pressure Monitoring System.>	Go to step 2.
<b>2 CHECK WIRING HARNESS.</b> Measure the resistance between tire pressure monitoring control module and combination meter connector. <b>Connector &amp; terminal</b> <b>(i10) No. 10 — (R211) No. 2:</b>	Is the resistance 0.5 $\Omega$ or less?	Go to step 3.	Repair the harness and connector between tire pressure monitoring control module and combination meter.
<b>3 CHECK POOR CONTACT OF CONNECTOR.</b>	Is there poor contact in the tire pressure monitoring control module connector and combination meter connector?	Repair the connector.	Check the combination meter.