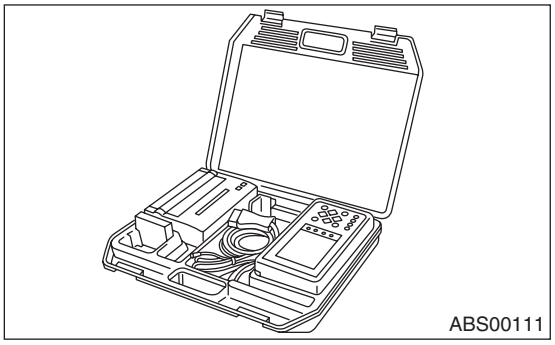
5. Subaru Select Monitor

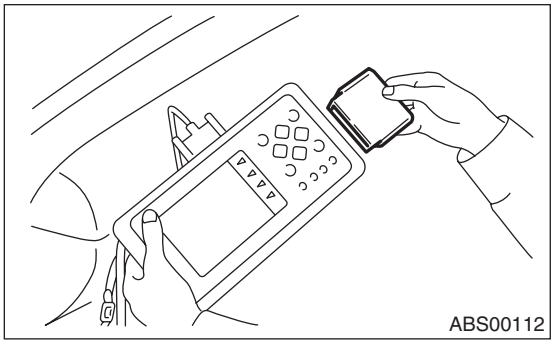
A: OPERATION

1. READ DIAGNOSTIC TROUBLE CODE (DTC)

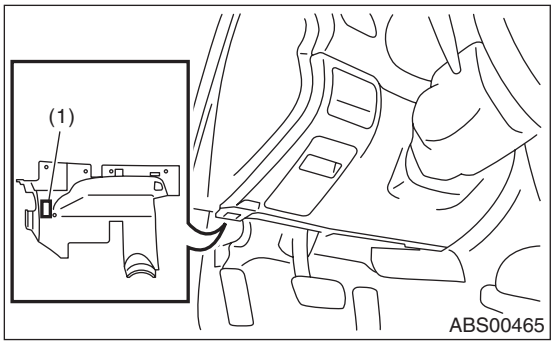
1) Prepare the Subaru Select Monitor kit. <Ref. to TPM(diag)-4, SPECIAL TOOL, PREPARATION TOOL, General Description.>



2) Connect the diagnosis cable to the Subaru Select Monitor.
3) Insert the cartridge to the Subaru Select Monitor. <Ref. to TPM(diag)-4, SPECIAL TOOL, PREPARATION TOOL, General Description.>



4) Connect the Subaru Select Monitor to the data link connector.
(1) The data link connector is located in the lower portion of the instrument panel (on the driver's side).

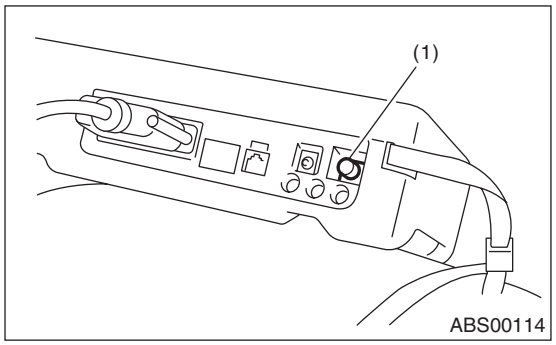


(1) Data Link Connector

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

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

5) Turn the ignition switch to ON (engine OFF) and turn the Subaru Select Monitor switch ON.



(1) Power switch

6) On the «Main Menu» display screen, select {Each System Check} and press the [YES] key.
7) On the «System Selection Menu» display screen, select the {Tire Pressure Monitor} and press the [YES] key.
8) Press the [YES] key after the {Model Year} is displayed.
9) On the «Tire Pressure Monitor Diagnosis» screen, select the {DTC Display}, and then press the [YES] key.

NOTE:
• For details concerning the operation procedures, refer to the "SUBARU SELECT MONITOR OPERATION MANUAL".
• For details concerning DTCs, refer to List of Diagnostic Trouble Codes (DTC). <Ref. to TPM(diag)-27, List of Diagnostic Trouble Code (DTC).>
• All DTCs detected will be dispayed.
• If a particular DTC is not properly stored in memory (due to a voltage drop of the tire air pressure monitor control module power supply, etc.) when a problem occurs, a DTC suffixed with a question mark will appears on the Subaru Select Monitor display. This shows it may be an unreliable reading.

10) 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.>
11) When DTC is not displayed, check the indicator circuit and communication circuit. <Ref. to TPM(diag)-14, WITHOUT DTC, INSPECTION, Subaru Select Monitor.>

2. DATA DISPLAY

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

1. Data monitor (Analog)

Display	Contents to be monitored	Unit of measure
FR 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
FL FN Code		
RR FN Code		
RL FN Code		
FR tire 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
FL tire pressure		kPa, psig, mmHg, inHg
RR tire pressure		kPa, psig, mmHg, inHg
RL tire 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» screen, select {2. Each System Check} and press the [YES] key.
2) On the «System Selection Menu» display screen, select the {Tire Pressure Monitor} and press the [YES] key.
3) Press the [YES] key after the {Tire Pressure Monitor} is displayed.
4) On the «Tire Pressure Monitor Diagnosis» display screen, select the {Clear Memory} and press the [YES] key.
5) When “Done” and “Turn ignition switch OFF” is shown on the display screen, turn the Subaru Select Monitor and ignition switch OFF.

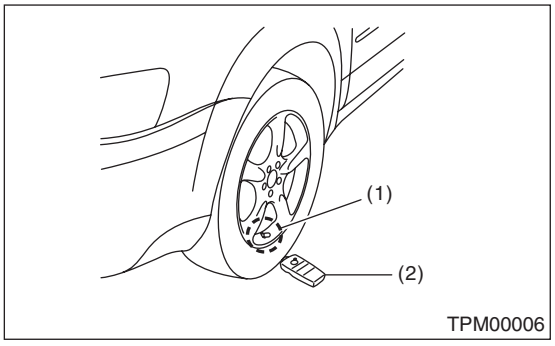
NOTE:
For details concerning the operation procedures, refer to the “SUBARU SELECT MONITOR OPERATION MANUAL”.

4. REGISTER TRANSMITTER ID

Perform the procedures below to register the transmitter.
• Transmitter replaced.
• Switched the position of the transmitter (rotated tires)
• 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-11, TIRE PRESSURE MONITORING CONTROL MODULE, REMOVAL, Tire Pressure Monitoring System.> <Ref. to WT-12, TIRE PRESSURE MONITORING CONTROL MODULE, INSTALLATION, Tire Pressure Monitoring System.>
• If the ignition switch and Subaru Select Monitor power are turned OFF while registering the transmitter, or if registration is not possible for more than 5 minutes, 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.
2) Connect the Subaru Select Monitor, on the «Main Menu» display screen, select the {2. Each System Check} and press the [YES] key.
3) On the «System Selection Menu» display screen, select the {Tire Pressure Monitor} and press the [YES] key.
4) Press the [YES] key after the {Tire Pressure Monitor} is displayed.
5) On the «Tire Pressure Monitor Diagnosis» display screen, select the {Transmitter ID regist confirm} and press the [YES] key.
6) {When ID registration mode execute, Registered ID is deleted Proceed?} is displayed then press the [YES] key.
7) Touch the transmitter registration tool to the side wall area near the air valve on the front left 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:
• Register the transmitter ID in the order of Left Front → Right Front → Right Rear → Left Rear.
• 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.>

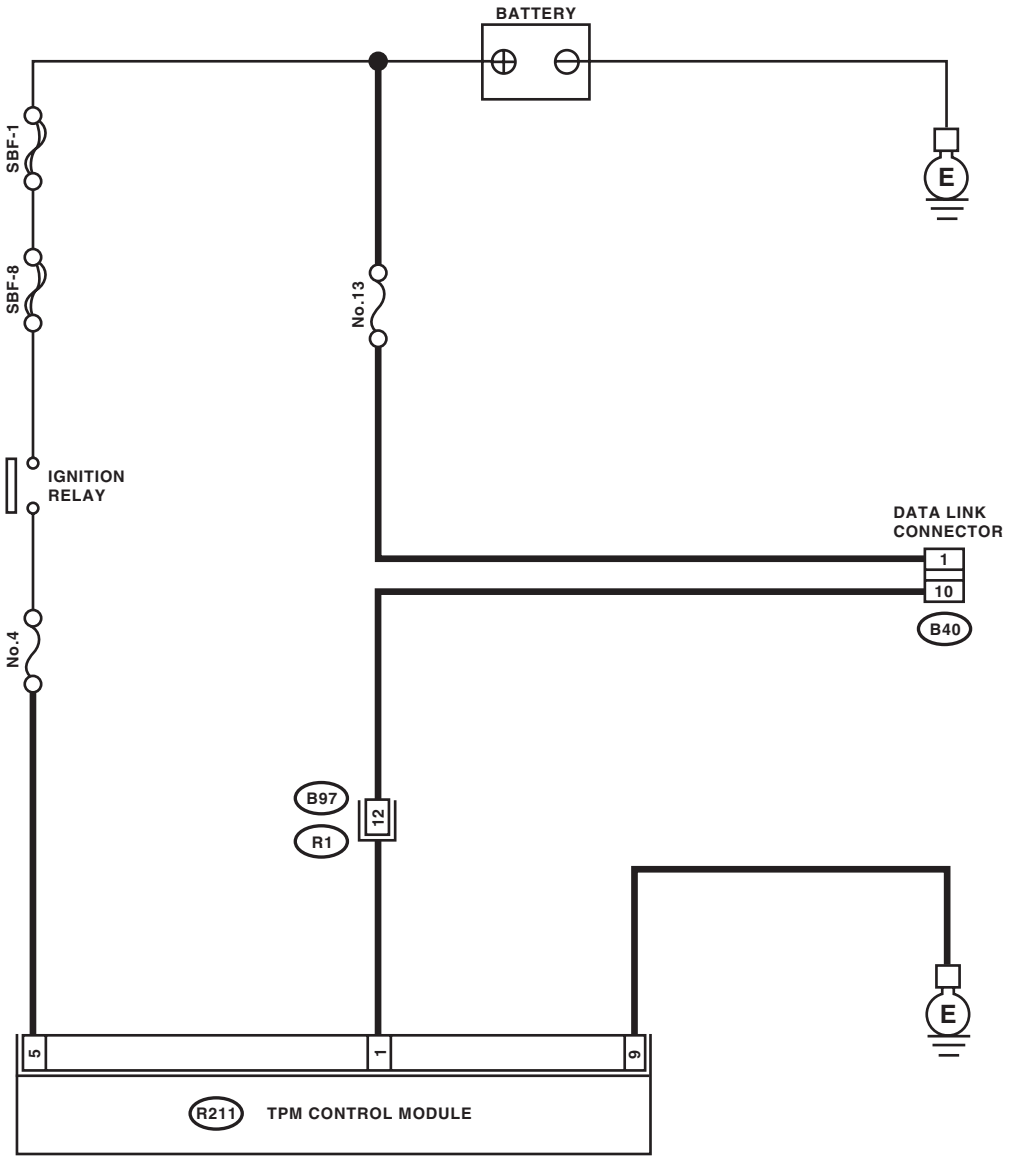
5. DISPLAY TRANSMITTER (ID).

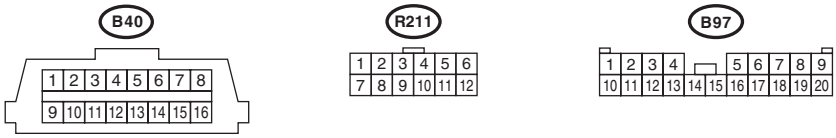
1) On the «Main Menu» display screen, select {Each System Check} and press the [YES] key.
2) On the «System Selection Menu» display screen, select the {Tire Pressure Monitor} and press the [YES] key.
3) Press the [YES] key after the {Tire Pressure Monitor} is displayed.
4) On the «Tire Pressure Monitor Diagnosis» display screen, select the {Transmitter ID regist confirm} and press the [YES] key.
5) Select {Transmitter ID Data Monitor} and press the [YES] key to display the transmitter ID.

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:





TPM00007

	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 the battery terminal?	Replace 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 performed normally.	Are the system name and model year 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 tire pressure monitoring control module connector. 3) Turn the ignition switch to ON. 4) Check whether communication to other systems 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-11, TIRE PRESSURE MONITORING CONTROL MODULE, REMOVAL, Tire Pressure Monitoring System.>	Go to step **6**.
6	**CHECK HARNESS CONNECTOR BETWEEN EACH CONTROL MODULE AND DATA LINK CONNECTOR.** 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. ***Connector & terminal*** ***(B40) No. 10 — 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 THE TIRE PRESSURE MONITORING CONTROL MODULE OUTPUT SIGNAL.** 1) Turn the ignition switch to ON. 2) Measure the voltage between tire pressure monitoring control module and chassis ground. ***Connector & terminal*** ***(B40) No. 10 (+) — 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 TIRE PRESSURE MONITORING CONTROL MODULE AND DATA LINK CONNECTOR.** Measure the resistance between tire pressure monitoring control module and data link connector. ***Connector & terminal*** ***(R211) No. 1 — (B40) No. 10:***	Is resistance less than 0.5 Ω?	Go to step **9**.	Repair the harness and connector between tire pressure monitoring control module and data link connector.
9	**CHECK TIRE PRESSURE MONITORING CONTROL MODULE CONNECTOR.** 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.

Step		Check	Yes	No
10	**CHECK POWER SUPPLY CIRCUIT.** 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. ***Connector & terminal*** ***(R211) No. 5 (+) — Chassis ground (–):***	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.
11	**CHECK HARNESS CONNECTOR BETWEEN TIRE PRESSURE MONITORING CONTROL MODULE AND CHASSIS GROUND.** 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. ***Connector & terminal*** ***(R211) No. 9 — Chassis ground:***	Is resistance less than 0.5 Ω?	Go to step **12**.	Repair open circuit of the harness of the tire pressure monitoring control module.
12	**CHECK POOR CONTACT IN CONNECTOR.**	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-11, TIRE PRESSURE MONITORING CONTROL MODULE, REMOVAL, Tire Pressure Monitoring System.>

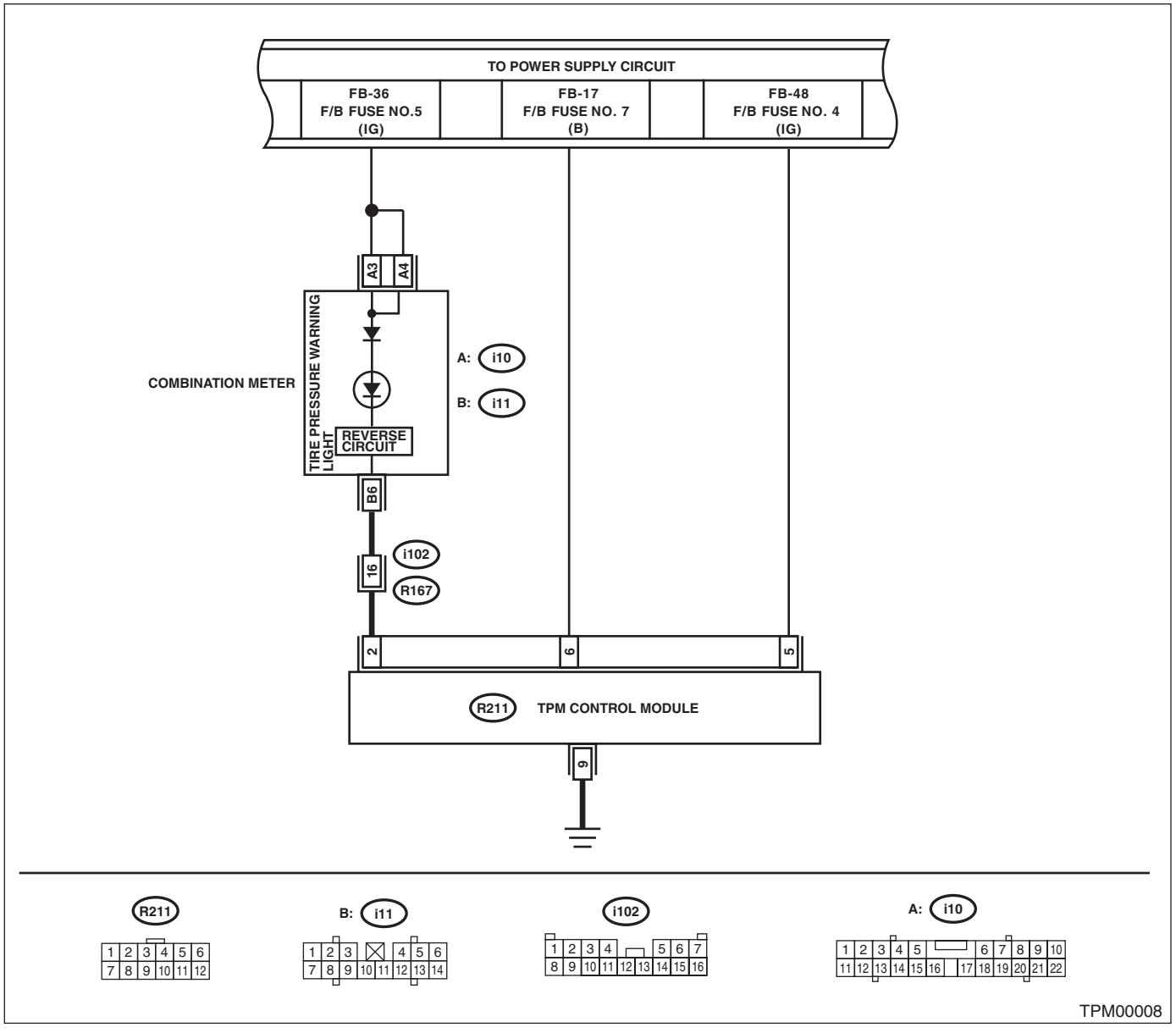
2. WITHOUT DTC

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:



	Step	Check	Yes	No
1	**CHECK SUBARU SELECT MONITOR DATA.** 1) Select {Current Data Display & Save} in the Subaru Select Monitor. 2) Read the data of the “Tire pressure warning light”.	Is “ON” indicated?	Replace the tire pressure monitoring control module. <Ref. to WT-11, TIRE PRESSURE MONITORING CONTROL MODULE, REMOVAL, Tire Pressure Monitoring System.>	Go to step **2**.
2	**CHECK WIRING HARNESS.** Measure the resistance between tire pressure monitoring control module and combination meter connector. ***Connector & terminal*** ***(i11) No. 6 — (R211) No. 2:***	Is resistance less than 0.5 Ω?	Go to step **3**.	Repair the harness and connector between tire pressure monitoring control module and combination meter.
3	**CHECK POOR CONTACT IN CONNECTOR.**	Is there poor contact in the tire pressure monitoring control module connector and combination meter connector?	Repair the connector.	Check the combination meter.