■SYSTEM OPERATION

1. General

The operation of the tire pressure warning system includes a warning function, initial check operation, initialization mode operation, and a diagnosis function.

2. Warning Operation

The Tire Pressure Warning ECU has two warning methods, depending on the condition detects.

Tire Pressure Warning Light	Detection Condition
Turns ON	The Tire Pressure Warning ECU detects that a tire inflation pressure becomes lower than the threshold. The threshold varies according to the initialization value.
Turns ON after blinking for 1 minute	The Tire Pressure Warning ECU detects a malfunction in the system.

- If the tire pressure warning light turns ON, adjust the tire inflation pressure.
- If the warning light turns ON after blinking for 1 minute, it can be turned OFF by repairing the malfunction in the system.

3. Initial Check Operation

After the power source is changed to IG ON*, the Tire Pressure Warning ECU lights up the tire pressure warning light for 3 seconds to check the warning light circuits and the Tire Pressure Warning ECU.

*: The power source condition can be changed by operating the engine switch on models with the smart key system, and the ignition switch on models without the smart key system.

4. Initialization Mode Operation

The tire inflation pressure is memorized in the Tire Pressure Warning ECU. Therefore, the Tire Pressure Warning ECU should be initialized after:

- Setting change of the tire inflation pressure
- Replacement of a tire or wheel
- Replacement of the Tire Pressure Warning ECU or the tire pressure warning valve and transmitter.

Service Tip

The Tire Pressure Warning ECU can be initialized as follows:

(1) Set the tire inflation pressure for all tires to the specified value.

Tire Size	Vehicle Speed	Tire Inflation Pressure [kPa (kgf/cm^2, psi)]	
		Front	Rear
245/65R17 245/55R19	More than 100 mph (160 km/h)	240 (2.4, 34)	240 (2.4, 34)
	100 mph (160 km/h) or less	210 (2.1, 31)	210 (2.1, 31)

(2) Keep the tire pressure warning reset switch pressed for three seconds or more with the IG ON.

(3) The tire pressure warning light blinks three times and the initialization mode starts.

(4) The initialization is completed when signals from all the tire pressure warning valve and transmitters are received (It will complete after a few minutes).

(5) After the initialization is completed, turn the IG OFF and then ON again, and check the pressure of all tires using the intelligent tester or Techstream*.

NOTE:

- Turning the IG OFF does not cancel the initialization mode.
- It is possible to cancel initialization mode using the intelligent tester or Techstream*.
- Initialization cannot be performed while driving.

*: Techstream is the name for the diagnostic tester in the North America, but other countries will continue to use the intelligent tester.

5. Diagnosis

To inform the driver when the Tire Pressure Warning ECU detects a malfunction in the system, the Tire Pressure Warning ECU will blink the tire pressure warning light for one minute, after which the light will stay on. It will also store DTCs (Diagnostic Trouble Codes) in memory.

- 5-digit DTCs can be read by connecting an intelligent tester or Techstream* to the DLC3.
- 2-digit DTCs can be read by connecting SST (09843-18040) to the TC and CG terminals of the DLC3 and monitoring the blinking of the tire pressure warning light.
- Test mode can be selected using an intelligent tester or Techstream* that is connected to DLC3.

For details, see the 2008 HIGHLANDER Repair Manual (Pub. No. RM06J0U).

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