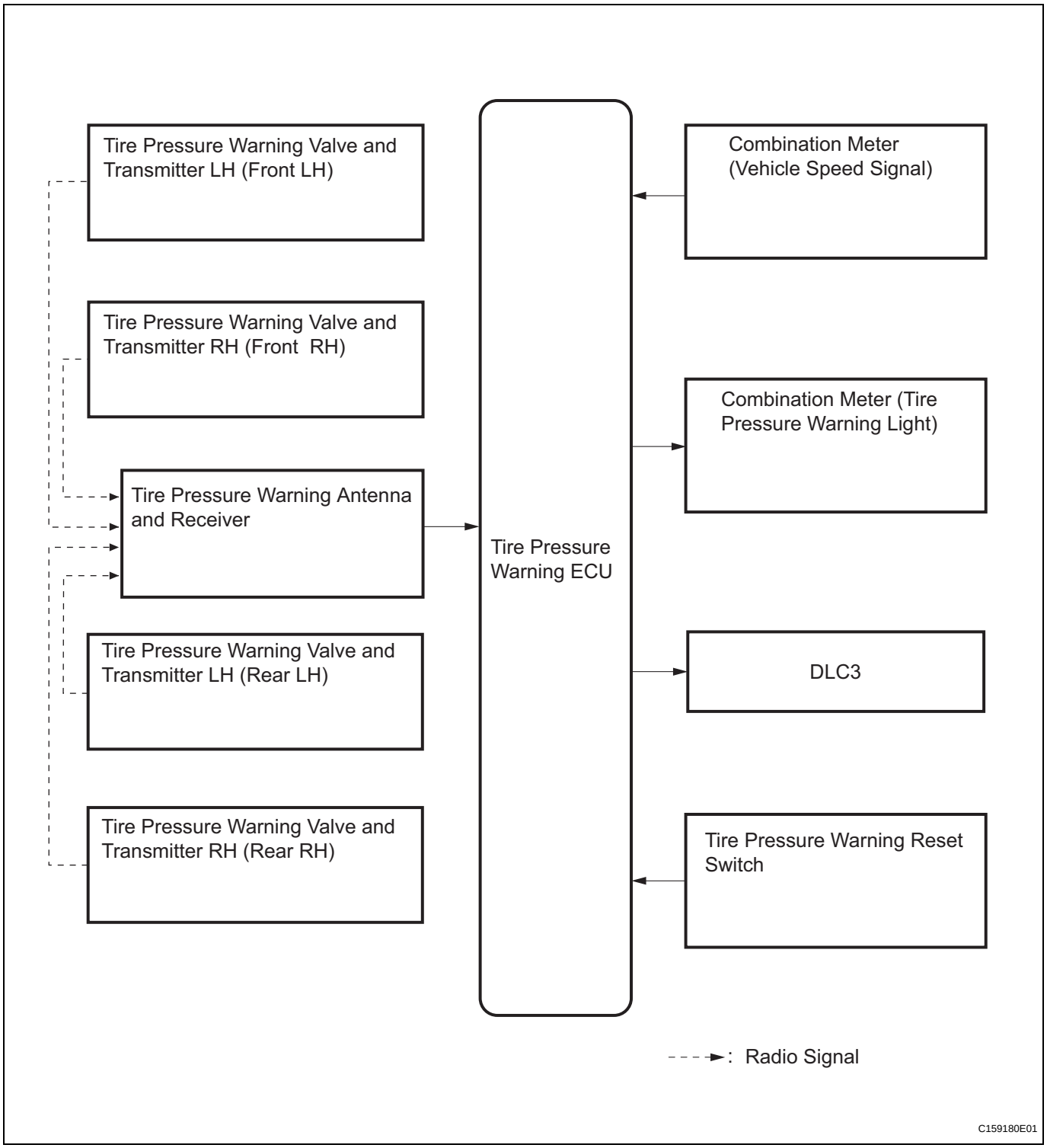
SYSTEM DIAGRAM



HINT:
The tire pressure warning valve and transmitter sends information on the temperature inside the tire, the ID, and the tire pressure.

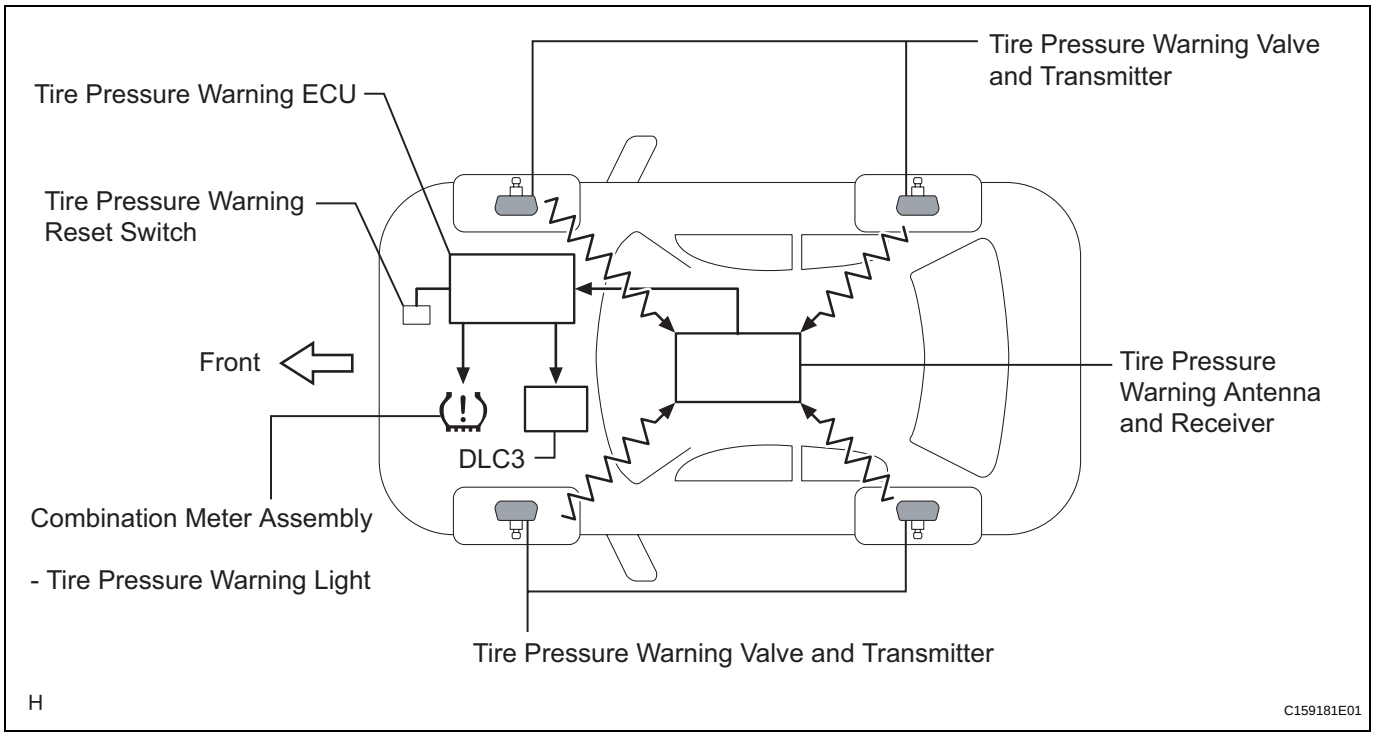
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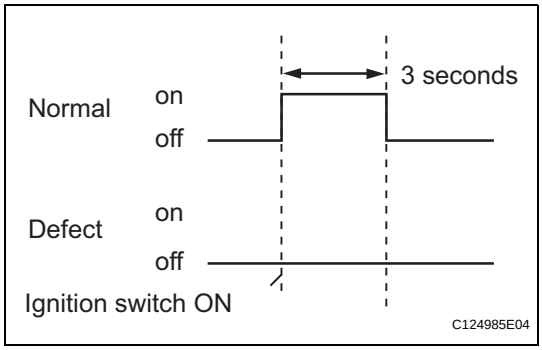
SYSTEM DESCRIPTION

1. DESCRIPTION OF SYSTEM

(a) A tire pressure warning valve and transmitter is equipped with a tire pressure sensor and a transmitter and is installed in a tire wheel assembly. The sensor measures the tire pressure. The measured value and transmitter ID are transmitted to the tire pressure warning antenna and receiver on the body as radio waves and then sent to the tire pressure warning ECU from the tire pressure warning antenna and receiver. If the transmitter ID has already been registered, the ECU compares the measured air pressure value with the specified value. When the value is less than the specified value registered in the tire pressure warning ECU, the warning light on the combination meter comes on.

- The tire pressure warning reset switch addresses the differences in the standard pressure of the tire.





2. INITIAL CHECK

(a) The tire pressure warning light turns on for 3 seconds after the ignition switch ON and then goes off.

HINT:

If the warning light does not turn on for 3 seconds, troubleshoot the tire pressure warning light circuit.

Trouble Area	See procedure
Tire pressure warning light circuit	TW-74

TW

3. WHEN TIRE PRESSURE WARNING LIGHT IS LIT

(a) When the tire pressure warning light does not go off, or when it comes on during driving, check tire pressure. If the tire pressure warning light comes on within several hours after adjusting the tire pressure, the tire may have a slow air leak.

(b) Under the following conditions, the system may not function properly.
- Facilities or devices that use similar radio frequencies are located in the vicinity of the vehicle.
- A radio device of similar frequency is used in the vehicle.
- A large amount of snow or ice is stuck to the vehicle, especially onto the wheels and around the wheel houses.
- The ID of the tire pressure warning valve and transmitter has not been registered with the ECU.
- A film or window tint that may interfere with radio waves is attached on the glass.
- The battery of the sensor has been depleted.
- The tires without tire pressure warning valve and transmitter are used.
- Tire chains are used.
- The use of non-genuine wheels may result in the system failure or air-leak.
- Depending on the tire type, the system may not function properly even though the specified wheels are used.

(c) After removing and installing the ECU or a sensor, check for a diagnostic trouble code and verify that it is a normal code.

4. FUNCTION OF COMPONENTS

Components	Function
Tire pressure warning valve and transmitter	Combined as a single unit with a disc wheel air valve, it measures tire pressure and temperature and transmits an ID number for measurement value and identification. Built-in the battery.
Tire pressure warning antenna and receiver	Receives and transmits a necessary signal from the transmitter to the tire pressure warning ECU.
Tire pressure warning ECU	Receives a signal from the receiver and identifies it as vehicle's own signal. If the measured value is equal to or lower than the specified value, it transmits a signal so that the tire pressure warning light on the combination meter comes on.
Tire pressure warning light	Located in the combination meter, it informs the driver of lowered tire air pressure and system failure.
Tire pressure warning reset switch	Enters the initialization mode for the change of the standard pressure

5. TIRE PRESSURE WARNING RESET SWITCH

- By operating the tire pressure warning reset switch, the tire pressure warning ECU can be set to issue a warning at an inflation pressure that corresponds to the standard pressure of tires.
  Therefore, the dealer must set the warning threshold to the proper value in order to comply with the local regulations.

- Operate the tire pressure warning reset switch only after the inflation pressures of all tires have been adjusted on the vehicle.
- To initialize the system, press and hold the tire pressure warning reset switch for 3 seconds or longer with the ignition switch ON. After the initialization process has started, the warning light blinks 3 times (1 second on, 1 second off).
- During initialization, the tire pressure warning valve and transmitter measures the inflation pressure of the tires, and registers the signals that are transmitted into the tire pressure warning ECU at a frequency of once per 3 minutes. The initialization process is completed when signals from all the tires have been received. It takes several minutes.