



U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

ODI RESUME

Investigation: PE 06-010
Date Opened: 02/27/2006 Date Closed: 08/02/2006
Principal Investigator: Cheryl Rose
Subject: Tire Pressure Warning System Failure

Manufacturer: Toyota Motor North America, Inc.
Products: 2004-2005 Toyota Sienna Vehicles with Run-Flat Tires (RFTs)
Population: 49,843

Problem Description: The Tire Pressure Warning System (TPWS) fails to provide sufficient warning of underinflated or flat tires while the vehicle is moving.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	18	69	77
Crashes/Fires:	1	2	2
Injury Incidents:	0	0	0
# Injuries:	0	0	0
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other*:	0	6	6

*Description of Other: Warranty claims where consumer alleged TPWS did not illuminate

Action: This Preliminary Evaluation (PE) has been closed.

Engineer: Cheryl Rose **CAR**
Div. Chief: Jeffrey L. Cunniff
Office Dir.: Kathleen C. DeMeyer

Date: 08/02/2006
Date: 08/02/2006
Date: 08/02/2006

Summary: ODI opened PE06-010 based on 12 reports of alleged Tire Pressure Warning System (TPWS) failure on the subject vehicles. All reports alleged that the TPWS warning light did not illuminate on the driver information panel when the tire pressure was low or the tire was flat. In some incidents, the consumer reported that TPWS light did not illuminate when the tire pressure in 1 tire was at 15-20 psi and the other tires were at or near the recommended tire pressure. During PE06-010, additional failure data was identified as noted in the failure report summary above. As of July 25, 2006, ODI was not aware of any allegations where the alleged defect resulted in a crash, an injury, or a fatality in the subject vehicles. In addition, ODI is aware of only two incidents where a tire was reported to have caught on fire during the incident. In both incidents, fire damage was limited to the rear passenger tire and tire well and/or smoke damage to items in the vehicle.

ODI'S analysis showed the following:

- (1) The subject vehicles use an indirect TPWS system with P225/60R17 Bridgestone B380 or Dunlop SP Sport 4000 DSST run-flat tires (RFTs).
- (2) There is a large variability in the pressure and driving time at which the TPWS will trigger the TPWS warning light to illuminate.
- (3) The TPWS may not make an accurate judgment under a variety of road or driving conditions, including if the vehicle is driven over 62 mph, the outside temperature is below 32 degrees Fahrenheit, the tread wear is uneven, the loading is over the limit, or the pressure of 2 or more tires drop at the same time. (See Toyota's April 10, 2006 information request response for more details.)
- (4) Some consumers reported that their tire pressure was below 15 psi or even as low as 0 psi before they realized that they had a tire pressure issue and as a result had to replace the tire. Note: Toyota states that if the tire pressure drops to below 15 psi, the tire can not be repaired.
- (5) In April 2006, in response to reports of premature or uneven tire wear, Toyota issued a Customer Support Program to provide supplemental tire warranty coverage for 2004-early 2006 MY Sienna vehicles with RFTs.
- (6) Field data and NETSA testing showed that the TPWS on the 2004-2005 MY Toyota Sienna 2wd vehicles, which use the same TPWS as the subject vehicles, but have standard tires, performed better than TPWS on the subject vehicles.

Due to the following reasons, ODI has decided that further expenditure of agency resources on this investigation is not warranted at this time:

- (1) Only a very small percentage of TPWS and tire related complaints and warranty claims cited that the TPWS did not illuminate on the subject vehicle during the incident. In the remaining tire related incidents, it was not possible to determine if the TPWS contributed to the tire related failure.
- (2) ODI is not aware of any incidents that were reported that resulted in the driver losing vehicle control.
- (3) The field data did not establish a relationship between poor TPWS performance and tire incidents with safety consequences.

Accordingly, this investigation is closed. The closing of this investigation does not constitute a finding by NHTSA that a safety-related defect does not exist. The agency will continue to monitor complaints and other information relating to the alleged defect in the subject vehicles and take further action in the future if warranted.

CAR
8/2/06