

TEST REQUEST: 2004 - 2005 MY Toyota Sienna (PE06-010)
Sent via email per Kathleen C. DeMeter's approval

2/27/06

Kathleen C. DeMeter, Director
Office of Defects Investigation

NVS-213car
PE06-010

Michael Monk, Director
Vehicle Research and Test Center

This memorandum requests the Vehicle Research and Test Center (VRTC) to conduct testing as described below.

BACKGROUND:

The Office of Defects Investigation (ODI) is currently investigating alleged Tire Pressure Warning System (TPWS) failure in MY 2004 - 2005 Toyota Sienna vehicles with run flat tires (PE06-010). ODI has received twelve (12) reports of alleged Tire Pressure Warning System (TPWS) failure on the subject vehicles. Eight (8) complaints were received on model year (MY) 2004 subject vehicles and four (4) on MY 2005 subject vehicles. All complainants reported 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 one tire was at 15-20 psi and the other tires were at or near the recommended tire pressure. In one (1) incident, the complainant reported that by the time he pulled to the side of the road, one tire was smoking and had burst into flames.

OBJECTIVES:

The objectives of this testing are to obtain, assess, and measure the performance of the TPWS in MY 2004 - 2005 Toyota Sienna vehicles when the vehicles are equipped with all run flat tires and all non-run flat tires.

RECOMMENDED APPROACH:

In coordination with ODI, the Vehicle Research Test Center shall develop a test plan and corresponding test procedures to:

1. Initialize (calibrate) the test vehicles using Toyota's standard initialization procedure.
2. Determine the length of time the subject vehicle must be driven after the TPWS has been calibrated properly before the TPWS warning light will illuminate when all four wheels are equipped with:
 - a. Non-run flat tires driven on straight roads.
 - b. Non-run flat tires driven on curved roads.
 - c. P225/60R17 Dunlop SP Sport 4000T or Bridgestone B380 original equipment run flat tires driven on straight roads.
 - d. P225/60R17 Dunlop SP Sport 4000T or Bridgestone B380 original equipment run flat tires driven on curved roads.

3. Determine the TPWS tire air pressure activation level and individual wheel speeds (if possible) required to illuminate the TPWS warning light when all four wheels are equipped with:
 - a. Non-run flat tires driven on straight roads.
 - b. Non-run flat tires driven on curved roads.
 - c. P225/60R17 Dunlop SP Sport 4000T or Bridgestone B380 original equipment run flat tires driven on straight roads.
 - d. P225/60R17 Dunlop SP Sport 4000T or Bridgestone B380 original equipment run flat tires driven on curved roads.
 4. Determine the operating speed range in which the TPWS will function properly and illuminate the TPWS warning light when all four wheels are equipped with:
 - a. Non-run flat tires.
 - b. P225/60R17 Dunlop SP Sport 4000T or Bridgestone B380 original equipment run flat tires.
 5. Determine the braking distance required when one tire is set to 15 psi and all four wheels are equipped with:
 - a. Non-run flat tires.
 - b. P225/60R17 Dunlop SP Sport 4000T or Bridgestone B380 original equipment run flat tires.
- Note: The air pressure for the other tires should be set to Toyota's recommended air pressure per its owner's manual.
6. Determine the effect of improperly reinitializing the TPWS after rotating, or replacing a tire on the functionality of the TPWS.
 7. Conduct any other necessary tests on the TPWS, or components thereof, to accomplish the above objectives.

TEST VEHICLE(S):

In coordination with ODI, the Vehicle Research Test Center shall obtain complaint vehicle(s) as required for testing and/or field inspections.

ADDITIONAL INFORMATION:

The project engineer is Cheryl Rose (202-366-1869) who will discuss the details of the testing and/or field inspections with your engineers.

FINAL REPORT:

It is requested that the test work and draft report be completed as scheduling allows in coordination with ODI.