



Tire Sealant Valve Stem/Tire Pressure Monitor Sensor Injection Test

1 Introduction

Note: Nothing in this standard supercedes applicable laws and regulations.

Note: In the event of conflict between the English and domestic language, the English language shall take precedence.

1.1 Purpose. To validate the Tire Sealant and Compressor Kit's (TSCK) ability to inject sealant through a tire valve stem/Tire Pressure Monitor (TPM) sensor without leaving residual sealant material attached to the valve core elements that may prohibit opening and closing properly.

1.2 Applicability. This procedure applies to all vehicles with TSCK.

1.3 Remarks. This test was written as a standalone test and may be replaced by both the compressor, GMW15771 and sealant performance test, GMW15807.

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

SAE J1205 SAE J1206

2.2 GM Standards/Specifications.

GMW14586 GMW15771 GMW15807

2.3 Additional References.

GM Approved Supplier Tire Pressure Monitor (TPM) Sensor Procedures

3 Resources

3.1 Facilities. Test requires a climate controlled chamber capable of holding a full-sized production tire and TSCK. Test should be written as a full vehicle level test, but may be modified into a lab test upon written authorization from GM Product Engineering (Design Responsible Engineer (DRE) or equivalent).

3.2 Equipment.

- DC Power Supply.
- Resealable Plastic Storage Bags.
- Empty Container (or Equivalent).

3.3 Test Vehicle/Test Piece.

- Three (3) TSCK Compressors.
- 18 TSCK Sealant Bottles (minimum 400 mL).
- 18 GM Production Valve Stem/TPM Sensors.

3.3.1 Production released TPM sensor/valve stem shall be tested.

3.3.2 Tire shall not be punctured.

3.3.3 Product Validation (PV) level TSCK units shall be tested (or written authorization from GM Product Engineering, DRE or equivalent if unavailable).

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3.4 Test Time.

Calendar time: 2 d
Test time: 36 h
Coordination time: 12 h

3.5 Test Required Information. Not applicable.

3.6 Personnel/Skills. Personnel familiar with climate controlled chamber and TSCK operation is required.

4 Procedure

4.1 Preparation.

4.1.1 Mark TSCK and valve stem/TPM sensor with identification number for later reference.

4.1.2 Soak TSCK and valve stem/TPM sensor in climate controlled chamber at the specified test temperature for ≥ 4 h.

4.2 Conditions.

4.2.1 Environmental Conditions. Entire test shall be performed at -30 C, 23 C and 55 C.

4.2.2 Test Conditions. Deviations from the requirements of this standard shall have been agreed upon. Such requirements shall be specified on component drawings, test certificates, reports, etc.

4.3 Instructions.

4.3.1 Remove TSCK and Valve Stem/TPM sensor from climate chamber.

4.3.2 Record TSCK and Valve Stem/TPM sensor identification numbers.

4.3.3 Turn on DC power supply for TSCK.

4.3.4 Unwrap the sealant hose and electrical cord.

4.3.5 Connect the sealant hose to the valve stem/TPM sensor and the power plug to the DC power supply.

4.3.6 Start the power on the TSCK and dispense the sealant into an empty container or equivalent.

4.3.7 Turn off DC power supply for TSCK once all of the sealant has been dispensed.

4.3.8 Repeat steps 4.3.1 to 4.3.7 for each sealant bottle and valve stem/TPM sensor combination (six (6) at each temperature range).

4.3.9 Place six (6) valve stem/TPM sensor of each temperature range into a resealable plastic storage bag.

Note: These test samples are to be provided to GM approved TPM sensor supplier for evaluation

5 Data

5.1 Calculations. Not applicable.

5.2 Interpretation of Results. See GMW14586 for specific requirement values.

Note: These test samples are to be provided to GM approved TPM sensor supplier for evaluation.

5.2.1 After TSCK usage, the tire valve shall open properly to allow the flow of air, SAE J1205/SAE J1206 and Schrader TPM sensor procedures.

5.2.2 After TSCK usage, the tire valve shall close properly and not allow the loss of air, per SAE J1205/SAE J1206 and Schrader TPM sensor procedures.

5.2.3 TPM sensor shall maintain its functionality.

5.3 Test Documentation. GM Approved TPM sensor supplier e-mail (or equivalent) evaluating TPM sensor functionality post-testing required. Submit a photograph of the tire valve or sensor after testing (see Figure 1).

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