



ISO Slalom Test

1 Scope

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 determine the speed and stability, when driving through traffic cones.

1.2 Foreword. Not applicable.

1.3 Applicability. This test procedure applies to any two-axle pneumatic rubber-tired vehicle at all load conditions.

2 References

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

2.1 External Standards/Specifications.

ISO 9001

SAE J670E

ISO 15037-1

2.2 GM Standards/Specifications.

GMW14264

3 Resources

3.1 Facilities.

3.1.1 Calibration. The test facilities and equipment shall be in good working order and shall have a valid calibration label.

3.1.2 Alternatives. Alternative test facilities and equipment may also be used. However, all measuring variables as specified in this standard shall be determined correctly with respect to their physical definition.

3.1.3 The test requires a uniform paved surface that is wide enough to provide two lanes and appropriate run-off to safely perform the maneuver. The road surface gradient shall not exceed 2.5%. The peak coefficient of friction of the road surface should be between 0.8 and 1.0.

3.2 Equipment.

3.2.1 Speed measuring system.

3.2.2 Measuring tape.

3.2.3 Oil chalk.

3.2.4 Eleven traffic cones.

3.3 Test Vehicle/Test Piece.

3.3.1 Vehicle.

3.3.1.1 Select a vehicle according to the latest release status or product specification (in particular, note standard models and models with an unfavorable center of gravity).

3.3.1.2 Equip the vehicle with the latest versions of suspension, stabilizers and dampers.

3.3.1.3 Particular note shall be taken of vehicle versions with lift systems.

3.3.2 Tires. Standard and/or optional tire according to the production specification or internal work order.

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August 2013

Page 1 of 9

3.3.3 Wheels. Steel or aluminum rims according to the specification or internal work order (note rim offset).

3.3.4 Tire Pressure. According to release or internal work order (observe load).

3.3.5 Load.

- Unladen + 1 passenger.
- Maximum Gross Vehicle Weight Rating (GVWR).
- Maximum GVWR with Gross Axle Weight Rating Front (GAWR FR).
- Maximum GVWR with Gross Axle Weight Rating Rear (GAWR RR). Refer to the trim height sheets for weight according to the latest release.
- Four (4) passenger (see also trade press).
- The tests shall also be performed with a load of 4 to 5 passengers for comparison with tests in the trade press.

3.3.6 Roof Load. This shall be checked in individual cases according to the internal work order or following consultation with Design.

3.4 Test Time.

Calendar time: 0 days

Test hours: 6 hours

Coordination hours: 1 hour

3.5 Test Required Information. Not applicable.

3.6 Personnel/Skills. Experienced and trained personnel who have been given driver safety training.

4 Procedure

4.1 Preparation.

- The following tests shall be performed according to release or working order:
- Chassis check (example Appendix A).
- Check that weights and trim heights comply with the relevant release or internal work order (example Appendix B).
- Front and rear axle geometry (nominal values shall be set if necessary).
- Safety precautions shall be taken (see 6.1).

4.1.1 Test Track Preparation (See Appendix C). All cones shall be placed as shown in the appendix. The locations of the cones shall be marked with oil-based chalk.

4.2 Conditions.

4.2.1 Environmental Conditions. Test should be done only at dry surfaces and the maximum wind velocity should be less than 3 m/s.

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.

4.2.2.1 Loading.

4.2.2.1.1 One (1) person.

4.2.2.1.2 Gross Vehicle Weight Rating (GVWR): Number of persons in accordance with the number of seats authorized, remaining loading up to GVWR allocated, giving priority to permitted rear axle load or per internal work order.

4.2.2.1.3 Weights and trim heights as to the most recent release status or to internal work order.

4.2.2.2 Roof Load. The load (roof load) released for the product range or submitted for release according to 4.2.2.1 shall be checked.

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August 2013

Page 2 of 9

4.3 Instructions. For further information regarding Vehicle Dynamics test methods and terminology, reference the standards listed in 2.1.

4.3.1 Measurement of the transit time or speed begins at the first traffic cone and ends at the tenth traffic cone. The length of the measuring track is 180 m.

4.3.2 Run the test in 2nd/3rd gear or driving stage “D” for vehicles with automatic transmission. The accelerator can be moved as required during transit. Start the test at approx. 50 km/h (depends on vehicle).

4.3.3 The transit speed shall be noted for every run.

4.3.4 Increase the speed step by step until the first cones are hit, or you can not follow the path.

4.3.5 Subjective evaluation of the vehicle handling shall be made and noted (see an example in Table D1 in Appendix D).

5 Data

5.1 Calculations. Make sure the subjective evaluation form is complete. All required information should be recorded on the Test Vehicle Description (TVD).

5.2 Interpretation of Results. The test result is the highest speed the slalom can be driven without hitting traffic cones.

5.3 Test Documentation. The results of this test shall be recorded in a test report with reference to this test procedure.

6 Safety

This standard may involve hazardous materials, operations, and equipment. This standard does not propose to address all the safety problems associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

6.1 Safety Provisions:

- Helmet.
- Protective clothing.
- Roll cage.
- Four-point seat belts. (Only for vehicles at risk of tipping-up determined via simulation calculation.)

7 Notes

7.1 Glossary.

ISO 9001: Requirements for Quality Management Systems

ISO 15037-1: Vehicle Dynamics Test Methods for Road Vehicles

SAE J670E: Vehicle Dynamics Terminology

7.2 Acronyms, Abbreviations, and Symbols.

GAWR FR Gross Axle Weight Rating: Front

GAWR RR Gross Axle Weight Rating: Rear

GVWR Gross Vehicle Weight Rating

TVD Test Vehicle Description

8 Coding System

This standard shall be referenced in other documents, drawings, etc., as follows:

Test to GMW15895

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August 2013

Page 3 of 9



Documents

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