



## Durability Event: High Speed Vmax

### 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 subject a vehicle to high speed operation up to vehicle's maximum speed (Vmax).

**1.2 Applicability.** This specification provides a GM worldwide engineering standard to insure uniformity of high speed content experienced by GM products being tested at various global test sites.

**1.3 Remarks.** The test instructions covered in this standard are intended for use in passenger car and truck testing and should be adapted at all major GM test sites:

- Cruz Alta Proving Ground – Brazil.
- Desert Proving Ground – Yuma USA.
- Dudenhofen Proving Ground – Germany.
- Guangde Proving Ground – China.
- Lang Lang Proving Ground – Australia.
- Milford Proving Ground – USA.
- Millbrook Proving Ground – England.

This global test procedure is intended to document the test facility requirements and driving instructions necessary to properly execute this durability event. Regional test procedures exist in order to implement this global procedure at the various GM proving grounds. Each regional test procedure includes the driving instructions for the specific access roads to and from the test facility, references to local signs and landmarks, and any other region-specific information necessary to implement this GMW durability event.

### 2 References

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

#### 2.1 External Standards/Specifications.

None

#### 2.2 GM Standards/Specifications.

GMW15444                      GMW15445

#### 2.3 Additional References.

**2.3.1 Cruz Alta.** DR.CA.1328.

**2.3.2 Dudenhofen.** DR.DH.vmax+.

**2.3.3 Guangde.** DR.GD.MV.

**2.3.4 Lang Lang.** DR.LL.1VM.

**2.3.5 Milford.** DL.MF.MV.

**2.3.6 Millbrook.** DR.MB.R.43.

**2.3.7 Yuma.** DR.YU.MV.

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### 3 Resources

**3.1 Facilities.** This event is to be executed on each proving ground's high speed track. Refer to Table 1: Maximum Speed on the High Speed Track at Each Proving Ground.

**Table 1: Maximum Speed on the High Speed Track at Each Proving Ground**

| Test Facility             | Proving Ground | Maximum Speed (km/h) |
|---------------------------|----------------|----------------------|
| High Speed Circular Track | Cruz Alta      | 220                  |
| High Speed Circular Track | Dudenhofen     | Unlimited            |
| High Speed Track          | Guangde        | 260                  |
| High Speed Circular Track | Lang Lang      | 200                  |
| High Speed Circular Track | Milford        | 260                  |
| High Speed Circular Track | Millbrook      | 250                  |
| High Speed Circular Track | Yuma           | 200                  |

**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.

**3.2 Equipment.** Refer to the appropriate proving ground driving instruction document.

**3.3 Test Vehicle/Test Piece.** Provision must be made to enable the driver to monitor vehicle speeds up to the maximum speed of the vehicle.

**3.4 Test Time.** The time required to execute this event varies by proving ground and vehicle performance. Refer to the appropriate proving ground driving instruction document.

**3.5 Test Required Information.** Shift speeds are to be determined by the test responsible personnel. Manual downshifts of the transmission must be specified so that the maximum allowable engine speed (red line) is not exceeded. For vehicles with manual transmissions the specified upshift speed should be 10% to 15% below the maximum allowable engine speed (red line).

**3.6 Personnel/Skills.** Refer to the appropriate proving ground driving instruction document.

### 4 Procedure

**4.1 Preparation.** Refer to the appropriate proving ground driving instruction document.

**4.2 Conditions.**

**4.2.1 Environmental Conditions.** Refer to the appropriate proving ground driving instruction document.

**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.** This event provides vehicle operation up to Vmax. See Table A1: Driving Instructions for driving speeds and maneuvers relating to procedure.

### 5 Data

**5.1 Calculations.** Refer to the appropriate durability test standard.

**5.2 Interpretation of Results.** Refer to the appropriate durability test standard.

**5.3 Test Documentation.** Refer to the appropriate durability test standard.

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