



Durability Event: Active Yaw Control

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 provide a generic set of instructions as a guide to checking the correct operation of a vehicle's Active Yaw Control system (or Electronic Stability Program) by maintaining a "fishtailing" action on a gravel road or low coefficient surface. (See Appendix A.)

1.2 Applicability. The test instructions covered in this standard are intended for use in passenger car and light duty truck testing when fitted with Active Yaw Control (also known as Electronic Stability Program) and could be available at the following GM test sites:

- Cruz Alta Proving Ground – Brazil
- Dudenhofen Proving Ground – Germany
- Gaungde Proving Ground – China
- Heihe Proving Ground – China
- Kapuskasing Proving Ground – Canada
- Lang Lang Proving Ground – Australia
- Milford Proving Ground – United States of America

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.

- **Cruz Alta:** DR.CA.1405
- **Dudenhofen:** DR.DH.ESP
- **Guangde:** DR.GD.AW
- **Heihe:** DR.HH.Active Yaw
- **Kapuskasing:** DR.KP.AW
- **Lang Lang:** DR.LL.9AW
- **Milford:** DR.MF.AW

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3 Resources

3.1 Facilities. This specification requires an area of gravel road or loose surface which can accommodate the specific maneuvers detailed within. The specific location/facility used at each proving ground varies. Refer to the appropriate proving ground driving instructions document.

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. Not applicable.

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

3.5 Test Required Information. Not applicable.

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

4 Procedure

4.1 Preparation. Refer to the appropriate proving ground driving instructions document.

4.2 Conditions. Refer to the appropriate proving ground driving instructions document.

4.2.1 Environmental Conditions. This procedure is to be executed only during daylight hours. In situations where severe weather makes driving unsafe, this module should be postponed until conditions improve.

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 is intended to be performed at a low coefficient facility. Do not enter the test area until the facility is clear of other traffic.

This event consists of a series of five continuous low speed right-left swerves or fishtails followed by a series of Anti-Lock Brake System (ABS) and Traction Control System (TCS) operations. The preceding Yaw maneuvers are then repeated while traveling in the opposite direction toward the exit.

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.

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.

In general, a risk assessment needs to be performed for every driving instruction prior to executing this standard. (**Note:** National law needs to be considered while performing a risk assessment.) The required rating of risk by exposure probability and possible violation will be done in a separate document. Every identified risk must be named inside the risk assessment for the relevant driving instruction in order to announce that risk to employees. Within the risk assessment, the vehicle equipment and different vehicle build stages have to be considered. After performing a risk assessment, non-acceptable risk needs to be mitigated by appropriate countermeasures. Here technical measures are preferred because these are independent from attendant circumstances. In case technical measures are not appropriate, organizational and/or personal measures will apply. This includes training, wearing of Personal Protection Equipment, or arrangement of idle time.

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