



Durability Event: Integral Rear End Carrier

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 structural integrity and integration of an Integral Rear End Carrier. More specific driving instructions based on this generic detail will be provided by each test site.

1.2 Applicability. This specification is intended for use in passenger car and light duty truck testing when equipped with an integral Rear End Carrier and should be available at all major GM test sites:

- Cruz Alta Proving Ground (GM do Brasil)
- Dudenhofen Proving Ground (GM Europe)
- Guangde Proving Ground (GM Korea, PATAC)
- Lang Lang Proving Ground (GM Holden)
- Milford Proving Ground (GM North America)
- Millbrook Proving Ground (England)

1.3 Remarks. This standard provides a GM worldwide engineering standard to ensure uniformity of test inputs experienced by GM products being tested at various global test sites. It is intended as an event for inclusion in a durability test specification (i.e., GMW15531 and GMW15443 General Durability Tests) and is not sufficient for subsystem validation of the integrated Rear End Carrier.

2 References

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

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

GMW15443

GMW15445

GMW15531

3 Resources

3.1 Facilities. The inclusion of this procedure as a test addition in a durability test will include a number of facilities; refer to GMW15443 and GMW15531 General Durability Tests.

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. Not applicable.

3.3 Test Vehicle/Test Piece. Any passenger car or light truck fitted with an integrated Rear End Carrier (i.e., production build option not post build accessory). See Figures A1 and A2 in Appendix A for examples.

GM Confidential

© Copyright 2014 General Motors Company All Rights Reserved

October 2014

Page 1 of 4

3.4 Test Time. Refer to the appropriate parent test standard.

Calendar time: Test site specific

Test hours: Test site specific

Coordination hours: Test site specific

3.5 Test Required Information. Not applicable.

3.6 Personnel/Skills. Not applicable.

4 Procedure

4.1 Preparation. Not applicable.

4.2 Conditions. Not applicable.

4.2.1 Environmental Conditions. Not applicable.

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. It is intended that this procedure be included in 12.5% of the total test distance of a durability test. Where possible, this distance should cover the spectrum of test events and ballast conditions.

4.3.1 Ballast. The Rear End Carrier is to be loaded to maximum design mass not to exceed the Gross Vehicle Mass Rating (GVMR) or the rear Gross Axle Mass Rating (GAMR). This should be achieved by removal of ballast from the load area. Actual bicycles of the appropriate mass should be used whenever possible to accurately represent the center of gravity and mass distribution of the ballast. Refer to GMW15445 Vehicle Ballast for specific ballast requirements.

4.3.2 Operational Checks. Operational checks should include removal and reattachment of the Rear End Carrier test load at a minimum of 500 km intervals. During removal, the carrier and vehicle should be inspected for damage, wear, etc. If desired, the Rear End Carrier operation check can be implemented with the accessories which are performed once every 3 shifts.

4.3.3 Operation at maximum speed. Unless specifically stated otherwise, the operation speeds for any event should not be reduced as a consequence of Rear End Carrier use.

4.3.4 Operational Safety. For safety purposes the test load on the carrier should be secured to the vehicle by means other than the normal mode of attachment. However, the secondary mode of securing should not compromise the carrier test.

5 Data

5.1 Calculations. Not applicable

5.2 Interpretation of Results. Not applicable.

5.3 Test Documentation. Not applicable.

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.

7 Notes

7.1 Glossary. Not applicable.

7.2 Acronyms, Abbreviations, and Symbols.

GAMR Gross Axle Mass Rating

GVMR Gross Vehicle Mass Rating

LVM Light Vehicle Mass

GM Confidential

© Copyright 2014 General Motors Company All Rights Reserved

October 2014

Page 2 of 4