



Compass Vehicle Level Functional 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 test the operation of the vehicle compass.

1.2 Applicability. This procedure is applicable to all vehicles with a compass module.

1.3 Remarks. This is a vehicle level procedure and should not be performed until the components have passed the component level tests. The following components make up the compass subsystem:

- Compass Module.
- Compass Display (may be in the rearview mirror, driver information center, Heating Ventilation Air Conditioning (HVAC) control head, etc.)

2 References

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

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

None

2.3 Additional References.

- CG3790

3 Resources

3.1 Facilities. Circular track at GM Milford Proving Ground (MPG), or equivalent.

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. Global Positioning System (GPS), with roof mounted antenna that displays the heading in degrees.

3.3 Test Vehicle/Test Piece. For validation, a beta level or better vehicle must be used. Software in all involved modules must be up-to-date before starting test.

3.4 Test Time.

Calendar time: 1 day

Test hours: 4 hours

Coordination hours: 1 hour

3.5 Test Required Information. Not applicable.

3.6 Personnel/Skills. Not applicable.

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Page 1 of 2

4 Procedure

4.1 Preparation. Set the correct zone for the test location and calibrate compass module.

4.2 Conditions.

4.2.1 Environmental Conditions. Test cannot be run when GPS unit cannot lock onto satellites, i.e., heavy rain or snow.

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. See CG3790.

5 Data

5.1 Calculations. Determine the delta shift, i.e., the difference in the magnetic field measured with the subsystem component off and then on. See CG3790.

5.2 Interpretation of Results. See CG3790.

5.3 Test Documentation. See CG3790.

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.

GPS Global Positioning System

HVAC Heating Ventilation Air Conditioning

MPG Milford Proving Ground

8 Coding System

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

Test to GMW16018

9 Release and Revisions

This standard was originated in July 2008. It was first approved by Electrical Vehicle Integration and Development of Electrical Development/Validation in November 2008. It was first published in December 2008.

Issue	Publication Date	Description (Organization)
1	DEC 2008	Initial publication.
2	FEB 2014	Revised to current template. Moved test steps from Section 4 and data sheets in the Appendix into CG3790. (Body Electronics)

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Page 2 of 2