



Entry Control Subsystem Function 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 Entry Control Subsystem. The Entry Control Subsystem governs the "control of access" areas of the vehicle including vehicle locking/unlocking, popping closures, and security feedback.

1.2 Applicability. This test procedure applies to all 2009 model year and beyond Global A electrical architecture based programs and Global B electrical architecture.

1.3 Remarks. This procedure tests the electrical functions that support the Global A Entry Control and Personalization Subsystem Technical Specifications (SSTS) and Global B Entry Control Features - Functional Name Code (FNC) Document (Functional Technical Document).

2 References

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

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

GMW3110

2.3 Additional References.

- Automotive Regulation Information Database.
(<https://businessconnect.gm.com/sites/ARID/SitePages/Home.aspx>)
- CG2261 Global A Entry Control Test Procedure.
- CG4500 (For Global B).
- Electrical and Software Issue Management System (ESIMS).
- Global A Entry Control SSTS.
- Global A Personalization SSTS.
- Global B Entry Control Feature FNC Document (Functional Technical Document).
- Problem Resolution Tracking System (PRTS).
- Rational Team Concert (RTC).

3 Resources

3.1 Facilities. Global A and Global B electrical architecture system bench or a Global A and Global B electrical architecture vehicle. Some steps are intended for system bench testing only, and those steps are noted in CG2261 for Global A and CG4500 for Global B (the supplier shall work with the GM Design Responsible Engineer to comprehend this requirement).

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

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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.

3.2.1 A serial data interface and supporting Personal Computer (PC) application software to monitor General Motors Local Area Network (GMLAN) signals.

3.2.2 A voltmeter to measure voltage outputs.

3.2.3 An oscilloscope to measure current, analog or digital signals.

3.2.4 A stop watch to measure timing and latency.

3.2.5 A Direct Current (DC) variable power supply or equivalent (to simulate high and low vehicle battery voltage).

3.3 Test Vehicle/Test Piece. A system bench or vehicle with the following:

3.3.1 Body Control Module (BCM) and Center Gateway Module (CGM, Model Year 16 and beyond) with desired/correct software (Global A).

3.3.2 Body Control Module (BCM), Exterior Lighting Module (ELM) and Center Gateway Module (CGM) with desired/correct software (Global B).

3.3.3 Remote Fob actuation module with key Fob/User Identifier (UID) (Global A).

3.3.3 Remote Fob actuation module with User Identifier (UID) (Global B).

3.3.4 Front door latches.

3.3.5 Rear door latches.

3.3.6 Radio head.

3.3.7 Courtesy switches.

Note: The configured OnStar® module allows the Subsystem Test Engineer to call into the OnStar® Test and Development Center and also to test the Horn Controls/OnStar® interface.

3.4 Test Time.

Calendar time: 11 days

Test time: 80 h

Coordination time: 8 h

3.5 Test Required Information. Not applicable.

3.6 Personnel/Skills. A Subsystem Test Engineer with the following:

3.6.1 Knowledge of GMLAN serial data, including the ability to transmit serial data messages both functional and physical serial data messages.

3.6.2 Knowledge of the Global A Architecture Entry Control SSTS and Global B Entry Control Feature FNC Document (Functional Technical Document).

3.6.3 Basic understanding of Global A BCM and Global B BCM and ELM calibration structure/implementation.

3.6.4 Basic understanding of the GM Automotive Regulation Information Database. **Note:** This database is internal within General Motors. Contact the GM Lead Engineer for further instructions.

3.6.5 Knowledge and understanding of GMW3110 GMLAN Enhanced Diagnostic Test Mode Specification (Global A).

4 Procedure

4.1 Preparation. Verify the following:

4.1.1 All components on the system bench and vehicle have correct hardware and software levels.

4.1.2 The system bench and vehicle have an OnStar® module configured with an assigned Content Theft Identification (CTID) number.

4.1.3 On both the system bench and vehicle, the BCM has the proper calibration to enable or disable the Content Theft Deterrent (CTD) pre-alarm depending on the region being tested.

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