



Vehicle Theft Deterrent Subsystem Test Procedure

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 integration related functions of the Vehicle Theft Deterrent (VTD) Subsystem of Global A and Global B electrical architecture vehicles.

Note: This procedure does not test the VTD subsystem physical components. Performance requirements are tested by the Global A VTD and Global B subsystem hardware group.

1.2 Applicability. This procedure applies to the Global A and Global B electrical architecture vehicles.

1.3 Remarks. This procedure tests the electrical functions and the software functions that support the Global A and Global B VTD subsystem as defined by the Global A VTD Subsystem Technical Specification (SSTS) and Global B VTD Features - Functional Name Code (FNC) Document (Functional Technical Document) respectively.

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.

- CG2266 VTD Test Procedure (for Global A). The supplier shall work with the GM Design Responsible Engineer to comprehend this requirement.
- CG4503 VTD Test Procedure (for Global B). The supplier shall work with the GM Design Responsible Engineer to comprehend this requirement.
- Global A VTD SSTS.
- Global B VTD Features FNC Document (Functional Technical Document).

3 Resources

3.1 Facilities. This procedure can be performed on the Global A electrical architecture system bench or on a Global A and Global B electrical architecture vehicle.

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.

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

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3.2.2 Multimeter to measure voltage outputs.

3.2.3 Oscilloscope to measure current, and analog or digital signals.

3.2.4 Stop watch to measure timing and latency.

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

3.2.6 TED-Kit 2, or equivalent.

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

3.3.1 Blank driver authentication devices, i.e., a transponder in key, a Customer Identification Device (CID), etc.

3.3.2 An ignition switch or vehicle start button.

3.3.3 A vehicle theft deterrent master Body Control Module (BCM) and Exterior Lighting Module (ELM) (if available) with the VTD and appropriate calibrations enabled.

3.3.4 An antenna and the associated hardware for communicating to the driver authentication device, i.e., the immobilizer.

3.3.5 An engine control system, i.e., an Engine Control Module (ECM), a Powertrain Control Module (PCM), or a Hybrid Control Processor (HCP), in assembly mode, with the VTD and appropriate calibrations enabled.

3.3.6 A display device, i.e., a security telltale and/or a Driver Information Center (DIC).

3.3.7 An OnStar® module with theft notification features.

3.3.8 Remote key fob with AlcoKey unit (if available).

3.3.9 Key capture solenoid.

3.3.10 Power Take-Off (PTO) module.

3.3.11 Individual modules with environment identification verification.

3.3.12 Column lock master.

3.3.13 Column lock hardware.

3.3.14 Column lock secondary controller.

3.3.15 Remote Start system.

3.4 Test Time.

Calendar time: 15 days

Test hours: 120 h

Coordination hours: 8 h

3.5 Test Required Information. The VTD system is defined as comprising those modules that support the environment identification feature in the vehicle.

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

3.6.1 Knowledge of the Global A and Global B Architecture Vehicle Theft Deterrent specification/function.

3.6.2 Knowledge of and ability to read and interpret GMLAN signals.

3.6.3 Ability to transmit functional and physical GMLAN messages.

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

3.6.5 Basic knowledge of read and writing of transponder internal memory section by using TED-Kit 2, or equivalent, tools.

4 Procedure

4.1 Preparation. Verify the following:

4.1.1 All components on system bench or vehicle have correct hardware and software level calibrations.

4.1.2 System bench has latest BCM hardware and software and supports VTD and Remote Vehicle Start (RVS).

4.1.3 System bench has latest ECM hardware and software and supports VTD and RVS.

4.1.4 When using system bench for testing, verify that the simulator will allow successive power moding cycles.

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