



Occupant Position Mirrors Functional Procedures

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. The procedures of this standard are intended to test the subsystem functionality of power mirrors that are controlled by Global A module(s) as defined in the Global A Mirrors Subsystem Technical Specifications (SSTS). The procedures of this standard are not intended for testing the functionality of mirrors that are not controlled by control modules.

1.2 Applicability. The test procedures of this standard apply to Occupant Position Subsystems of vehicle programs of the Global A Electrical Architecture that have mirrors controlled by modules.

1.3 Remarks. The procedures of this standard test the electrical functions that support the Global A Mirrors as defined in the Global A Occupant Position Mirrors and Personalization Subsystem Technical Specifications (SSTS). These functions are Driver and Passenger Mirror, Camp, Power Fold/Unfold, Memory, Curb View, Supervised Power Movements, and Heat.

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.

- CG2268 Mirrors-Driver and Passenger Glass.
- CG2270 Mirrors-Fold and Unfold.
- CG2271 Mirrors-Heat.
- CG2272 Mirrors-Memory.
- CG2273 Mirrors-Tilt.
- Global A Occupant Position Mirrors SSTS.
- Global A Personalization SSTS.

3 Resources

3.1 Facilities. These procedures should be performed on a vehicle with production intent mirrors subsystem hardware, software and calibrations applicable to the platform under test. This may include, but is not limited to, the combinations of Memory, Heated, Extending, Curb View/Reverse Tilt, and/or Fold/Unfold and the associated Control Module(s), Switches, Wiring and General Motors Local Area Network (GMLAN) and Local Interconnect Network (LIN) Serial Data. Vehicle testing is preferred. Testing should be completed such that it is performed on both vehicle and bench. Testing may also be done on a subsystem bench if the testing is during the development phase of the software, module, or subsystem. Mirrors or switch simulators shall not be used.

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May 2014

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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 (PC) application software to monitor GMLAN signals.

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

3.2.3 A stop watch to measure timing and latency.

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

3.3 Test Vehicle/Test Piece. Vehicles, benches or frames that are used for these tests require production intent Mirrors Subsystem hardware, software and calibrations applicable to the platform under test. This may include, but is not limited to, the combinations of Memory, Heated, Extending and/or Folding Mirrors, and the associated Control Module(s), Switches, Wiring and GMLAN/LIN Serial Data to perform the test procedure.

3.4 Test Time.

3.4.1 Driver and Passenger Glass.

Calendar time: 1 ½ days

Test hours: 8 hours

Coordination hours: 4 hours

3.4.2 Fold and Unfold.

Calendar time: 1 ½ days

Test hours: 8 hours

Coordination hours: 4 hours

3.4.3 Heat.

Calendar time: ¼ day

Test hours: 1 hour

Coordination hours: 1 hour

3.4.4 Memory.

Calendar time: 1 ½ days

Test hours: 8 hours

Coordination hours: 4 hours

3.4.5 Tilt.

Calendar time: 1 ½ days

Test hours: 8 hours

Coordination hours: 4 hours

3.5 Test Required Information. Not applicable.

3.6 Personnel/Skills. The tests will require at least one subsystem validation engineer that is responsible for the subsystem under test. Testing requires knowledge of GMLAN/LIN serial data, the ability to read and interpret the serial data, and the ability to transmit serial data messages.

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