



Cold Weather Exposure Test Event: Extended Idle

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 subject a vehicle to an extended idle period experienced in a cold weather environment. This procedure is designed to be performed as part of GMW15016 Cold Weather Exposure Test, not as a stand-alone procedure.

1.2 Applicability. Refer to parent specification GMW15016.

2 References

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

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

GMW15016

GMW15213

3 Resources

3.1 Facilities. General Motors Cold Weather Development Centers (Kapuskasing, Canada; Hei He, China; Arjeplog, Sweden).

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. Refer to parent specification GMW15016.

3.3 Test Vehicle/Test Piece. Refer to parent specification GMW15016.

3.4 Test Time. Not applicable.

3.5 Test Required Information. Not applicable.

3.6 Personnel/Skills. Refer to parent specification GMW15016.

4 Procedure

4.1 Preparation.

4.1.1 Clean snow from exterior of vehicle and remove frost and ice from all windows.

4.1.2 Record if battery blanket or engine block heater is plugged into vehicle or other starting aids are used. Unplug the battery blanket and/or block heater if plugged in.

4.1.3 Record vehicle number, date and time, ambient temperature, odometer, and driver name on the data sheet obtained from driver supervisor.

Note: Data sheets are specific to the proving ground where the test is being executed and are not included in this standard.

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4.2 Conditions.

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.

Refer to parent specification GMW15016.

4.3 Instructions.

4.3.1 Functional Checks and Engine Start.

4.3.1.1 Unlock the driver's door using the remote keyless entry (RKE) system or, if not equipped with RKE, unlock with the key.

Unlock the other doors using the RKE. If not equipped with RKE, open the driver's door to unlock the other doors with power unlock. If not equipped with power locks, use the individual exterior key for the driver's door and interior manual lock buttons on the remaining doors. In the case of vans and other vehicles with doors usually unlocked using exterior lock keys, utilize this method for such doors. If the driver's door is not already open, open the driver's door. Enter the vehicle, and close the door.

4.3.1.2 Conduct pre-start component cycling in accordance with Part A of GMW15213 Accessories and the vehicle check sheet provided. Record any comments on the data sheet.

4.3.1.3 Ensure parking brake is engaged and check neutral start safety switch function by turning, or attempting to turn, the ignition key to the **Start** position with the automatic transmission gear selector in **Drive**. Manual transmission vehicles should perform this check with the clutch engaged and the vehicle in a forward gear. Note on the data sheet if the engine cranks during this operation.

Note: It is necessary to turn the ignition key to the unlock position to enable drive to be selected.

4.3.1.4 Ensure parking brake is engaged and check neutral start safety switch function by turning, or attempting to turn, the ignition key to the **Start** position with the automatic transmission gear selector in **Reverse**. Manual transmission vehicles should perform this check with the clutch engaged and the vehicle in **Reverse** gear. Note on the data sheet if the engine cranks during this operation.

Note: It is necessary to turn the ignition key to the unlock position to enable reverse to be selected.

4.3.1.5 Start the engine following the start procedure as indicated in the vehicle logbook. Record the starting time on the data sheet. Record duration of crank, number of starts attempted, and duration of wait periods between cranks for all start attempts including if engine does not start. When starting a manual transmission, ensure to place the gear shifter in **Neutral** and disengage the clutch.

4.3.1.6 After 15 s of engine operation, if the vehicle is equipped with power steering, turn the steering to full right stop, then to full left stop, then back to center. Note on the data sheet if there is any delay in the supply of power assist to the steering.

4.3.1.7 Record any stall(s) and engine restart time on the data sheet.

4.3.1.8 On vehicles equipped with automatic transmission, check the brake transmission shift interlock by attempting to select a **Drive** gear without applying the service brake. Note if interlock is not performing correctly. Release parking brake, engage **Reverse**, and back out of the parking space. Shift into **Drive** (first gear with manual transmission) and proceed to extended idle area. Note any stalls or adverse drivability on the data sheet.

4.3.2 Extended Idle.

4.3.2.1 At the designated extended idle location, stop the vehicle. Conduct post-start component cycling in accordance with Part B of GMW15213 and the vehicle check sheet provided. Record any comments on the data sheet. Apply the parking brake. Shift automatic transmission to **Park** (manual transmission to **Neutral**). Leave radio on, operate the tilt column release (if equipped).

Ensure all doors are unlocked using the master power lock button, if equipped. Otherwise, unlock all doors using manual lock buttons.

4.3.2.2 Set Heating Ventilation Air Conditioning (HVAC) system to automatic mode, if vehicle is so equipped, with the temperature set at 22 °C (72 °F). Otherwise, set HVAC system to highest fan speed, highest temperature setting, and mode to windshield defrost. If vehicle is equipped with a window de-ice feature, activate this feature as well. If vehicle is equipped with rear window defrost/de-ice features, activate these features also.

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