



Cold Weather Exposure Test Event: Accessories

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 test vehicle to cold weather operation which simulates customer service related to actuations of accessories, controls, hinged components, and locks. 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.

1.3 Remarks. Some of the vehicle's accessory items are operated incidentally during the execution of a durability test such as doors, windows, headlamps, radio, windshield wipers, Heating, Ventilation, Air Conditioning (HVAC), etc. This test event is intended to provide supplementary operation for some of the interior accessories, providing actuations in order to evaluate their performance at a more closely simulated customer service level.

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

3 Resources

3.1 Facilities. GM 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. Refer to parent specification GMW15016.

4.1.1 This event is intended to incorporate the operation of all appropriate optional equipment, accessories, and components. A summary of the events and the timing for conducting each cycle is shown in Table A1. In order to comprehend new options and accessories, the responsible test coordinator should review Table A1 in Appendix A to evaluate if any appropriate options or accessories should be added to the event.

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4.2 Conditions. Refer to parent specification GMW15016.

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.

4.3 Instructions. This event consists of four (4) parts (A, B, C, and D) which are intended to be specified and executed independent of each other. These procedures are to be conducted in conjunction with other GMW15016 events.

In addition to the accessories listed here, drivers are encouraged to check the operation and performance of other accessories while performing this event, or any other events, as time and comfort allow.

Any abnormalities, including difficulties in performing the tasks, are to be recorded on the driver's comments sheets. See Data Sheet A1.

4.3.1 Part A – Pre-Start Cycling.

The following operations are to be performed prior to starting the vehicle engine:

Note: For each door opening specified below, check the operation of courtesy lamps as the door is opened. Maintain a hold on the door throughout the cycle so that it does not impact the wide open stop under its own momentum. When opening and closing the door, use the pull strap or armrest provided for that purpose.

4.3.1.1 Driver's Door and Operations from Driver's Seat. Open the driver's door to its full, open position; enter the vehicle, and close the door. From inside the vehicle with the door closed, lock the door using the manual lock button (this applies whether or not equipped with power locks.) Check that the lock is functioning by trying to open the door. Unlock the door using the manual lock button. Use the power lock switch if manual switch is not accessible.

Fully open and close the door from inside the vehicle.

If equipped with manual windows, open the window for that door half way and then return it to its closed position. Now completely open and close the window for that door manually.

Fully open and close the door again from inside the vehicle.

If equipped with manual windows, open the window for that door half way and then return it to its closed position. Now completely open and close the window for that door manually.

Fully open and close the door again from inside the vehicle.

4.3.1.1.1 Interior Rear View Mirror. From the driver's seat, rotate the interior rear view mirror through its full range of motion, cycle tilt-ray between both settings, and return the mirror to the position of optimum rear vision.

4.3.1.1.2 Sunshade. Unlatch the driver's sunshade(s), lowering and fully extending and retracting the glare shield (if so equipped), and fully extending the sunshade extension (if so equipped). Rotate the sunshade to the side, returning it to the front and then to the fully up position. Latch the sunshade. Sunshades that are extendible on the support rod are to be fully extended and retracted before the sunshade is returned to the up position. Cycle vanity mirror lamp, if so equipped.

4.3.1.1.3 Storage Compartments and Boxes. For all interior compartment boxes accessible from the driver's seat (including glove boxes, center console compartments, cup-holders, ashtrays, cigarette lighter, etc.), unlatch the lid(s), opening them fully, and closing the compartment(s). Where a lock is provided, use the key to unlock and lock during the cycling. Check to ensure the lock is operational. Check operation of any compartment lamps while cycling.

4.3.1.1.4 Seat Back Load. Exert a high force on the seat back by supporting your body with the shoulders high on the seat back and bracing feet on the floor and then relaxing the force. Repeat this exercise one (1) additional time.

4.3.1.1.5 Seat Belt. Extend the driver's seat belt and engage the buckle, adjusting the belt, shoulder point height adjustment feature (if so equipped), and operating the comfort lock feature. After adjustments, grasp both pieces of shoulder belt below height adjuster and tug downward, if applicable. Disengage the buckle and release the belt to allow full retraction, if appropriate.

4.3.1.1.6 Manual Tilt Steering Column. Adjust manual tilt steering column, if so equipped, to the fully down position. Allow the steering column to remain in fully down position for 10 s, then pull the release lever. Allow the column to return to the fully up position under its own spring force, then adjust wheel position for comfort.

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4.3.1.1.7 Remote Release for Hood and Trunk Lid, Tailgate, Tailgate Glass or Rear Cargo Doors. Release the hood with the remote hood release. Release trunk lid, tailgate, tailgate glass, or rear cargo doors with interior release, if so equipped.

4.3.1.1.8 Forward Folding Seat. From a seated position, cycle head restraint fully up, down, forward, and rearward, and then adjust for comfort. Move arm rest fully up and down. Fully open the door and exit the vehicle. From a standing position outside the vehicle, tip the seat back fully forward for rear seat access.

If the vehicle is not equipped with a rear driver's side door, enter the vehicle, exercise the sunshade (4.3.1.1.2), storage compartments (4.3.1.1.3), and seat belt (4.3.1.1.5) for the driver's side rear seat, as applicable. Also exercise any forward folding rear seat, trunk access panel and rear seat headrest through their full range of motion. Exit the vehicle.

Return the front seat to its upright position. When in the upright position, check the seat back locking operation. Close the driver's door.

4.3.1.1.9 Hood Opening. Unlatch the hood, open it fully, and support it with the prop rod, if so equipped. Check operation of any associated lamps while cycling. Check for, and record, any fluid leaks or abnormalities when the hood is open.

4.3.1.1.10 Under Hood Checks after Overnight Soak. If this event is performed immediately after an Overnight Soak, perform the following checks:

- Remove the cap on the windshield washer reservoir and check the fluid level. Refill the windshield washer reservoir if necessary.
- Check the level of the engine coolant reservoir. Refill the reservoir, if necessary. Use caution since this reservoir can be pressurized.
- Make certain caps are properly tightened after fluid checks so no leaks occur when vehicle is started.
- Remove the engine oil dipstick and check the engine oil level.

4.3.1.1.11 Hood Closing. Close the hood. Note if the hood requires extra effort to open or close, or if the hood does not remain raised.

Note: This operation does not need to be performed if it was conducted as a part of the starting procedure or when checking fluid levels.

4.3.1.2 Passenger Side Front Door and Operations from Passenger Front Seat. Open the passenger side front door to its full, open position; enter the vehicle, and close the door. With the door closed, lock the door using the manual lock button (this applies whether or not equipped with power locks). Check that the lock is functioning by trying to open the door. Unlock the door using the manual lock button. Use the power lock switch if manual switch is not accessible.

Fully open and close the door from inside the vehicle. If equipped with manual windows, open the window for that door half way and then return it to its closed position. Now completely open and close the window for that door manually. Fully open and close the door again from inside the vehicle.

If equipped with manual windows, open the window for that door half way and then return it to its closed position. Now completely open and close the window for that door manually. Fully open and close the door again from inside the vehicle.

4.3.1.2.1 Sunshade. Repeat 4.3.1.1.2 for the front passenger sunshade(s).

4.3.1.2.2 Storage Compartments and Boxes. Repeat 4.3.1.1.3 for all interior compartment boxes accessible from the front passenger seat that have not been exercised from another seating position. Note operation of any associated lamps.

4.3.1.2.3 Seat Back Load. Exert a high force on the seat back by supporting your body with the shoulders high on the seat back and bracing feet on the floor and then relaxing the force. Repeat this exercise one (1) additional time.

4.3.1.2.4 Seat Belt. Repeat 4.3.1.1.5 for the front passenger seat belt.

4.3.1.2.5 Forward Folding Seat. From a seated position, cycle head restraint fully up, down, forward, and rearward, and then adjust for comfort. Move arm rest fully up and down. Fully open the door and exit the vehicle. From a standing position outside the vehicle, tip the seat back fully forward for rear seat access.

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