



Tailgate and Luggage Compartment Lid Water Drainage Hatchback and Notchback

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. Testing the water drainage of vehicle tailgates and luggage compartment lids.

1.2 Applicability. All vehicles with Tailgate, Decklid, Trunk, Hatchback/Liftgate in which the critical areas of the opened tailgate cover the interior/luggage compartment area.

1.3 Remarks. Water can collect behind panels, e.g., the license plate fastening on luggage compartment lids or tailgates. The water drains off when the luggage compartment lid or tailgate is opened. The aim is to prevent rain or water on a wet vehicle from dripping into the interior, or to restrict this to within reasonable limits.

2 References

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

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

GMW14264

2.3 Additional References.

- Gardena sprayers available at www.gardena.com/int/products/watering/garden-sprayer
- Polyethylene bottle available at www.nrparts.com/miscellaneous/miscellaneous/vwr/16651-165-low-density-polyethylene-narrow-mouth-wash-bottle

3 Resources

3.1 Facilities.

- Draft free test room
- Level vehicle parking surface
- Device for positioning the vehicle evenly on a lateral inclination of ≤ 6 degrees

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 Water hose with sprayer nozzle, (Gardena type 1927-20 950 03/0971 (see 2.3) or equivalent).

3.2.2 Clean, hard water without detergent or chemical additives, i.e., with large surface tension.

3.2.3 Protractor/inclinometer.

3.2.4 Stop watch.

GM Confidential

© Copyright 2017 General Motors Company All Rights Reserved

April 2017

Page 1 of 6



Documents
Document Sharing Hub

3.2.5 Video camera (preferably digital) with stand, PC image processing facility with suitable software to produce $\frac{1}{25}$ s freeze frames.

3.2.6 Polyethylene bottle, 250 mL capacity with spout tip cap, (model number 16651-165 (see 2.3) or equivalent).

3.3 Test Vehicle/Test Piece. Vehicle which is representative of the development status.

3.3.1 The vehicle shall have a painted and polished surface.

3.3.2 The vehicle shall be fully equipped including license plate.

3.3.3 The backlite in the hatchback shall be installed within the tolerance, and the adhesive bead shall correspond to the manufacturing process.

3.4 Test Time.

Calendar time: 1 day

Test time: 2 to 4 hours

Coordination time: 6 to 10 hours

- Vehicle procurement
- Test preparation
- Video camera procurement
- Evaluation
- Creation of report

3.5 Test Required Information. Not applicable.

3.6 Personnel/Skills. One (1) workshop mechanic and one (1) development engineer.

4 Procedure

4.1 Preparation.

4.1.1 The painted surfaces and seals shall be cleaned and dried before every test.

4.1.2 The tailgate or luggage compartment lid shall not exceed the specified installation tolerances and shall be adjusted if necessary.

4.2 Conditions.

4.2.1 Environmental Conditions. Unless otherwise specified, the test shall be performed at $23\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$.

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.

4.3.1 Lid Closed Test Condition. The tailgate or luggage compartment lid shall be closed.

The area shall be sprayed with the hose from a distance of 1 m to 2 m for ≥ 1 minute (this corresponds to a longer period when the vehicle is stationary in the rain, whereby the water can flow, e.g., behind the panel or seal, etc.) The formation of water droplets shall be visible on the horizontal polished surface of the vehicle, see Figure 1.

GM Confidential

© Copyright 2017 General Motors Company All Rights Reserved

April 2017

Page 2 of 6



Documents

Document Sharing Hub