



Seat Cushion Structure, with Extension, Durability Test

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. This test procedure evaluates the structural durability characteristics of a seat cushion with extension feature by simulating the load generated from traveling a road.

1.2 Applicability. This procedure applies to all GM passenger cars, light duty and medium duty trucks.

1.3 Remarks. Not applicable.

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.

None

3 Resources

3.1 Facilities. An approved GM certified test lab with an adequate bed plate or equivalent work surface necessary for mounting the test sample and associated test fixtures appropriate for the procedure to be run.

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 Mounting Fixture. A means to support the seat system including rigid mounting blocks, or equivalent, simulating the floor attachment points to mount the seat system in body position on a bed plate.

3.2.2 Load Application Device. A hydraulic cylinder with a capacity of 100 kg minimum and an attachment for a round pressure plate.

3.2.3 Round Pressure Plate. A rigid round plate with a diameter of 100 mm. This will be used to apply the load on the front part of the seat cushion.

Note: Calibrate all instrumentation as required.

3.3 Test Vehicle/Test Piece. Complete Trimmed Seat Subsystem. An appropriate seat subsystem consisting of all components necessary to qualify as complete for the model and trim level specified by the Design Release Engineer (DRE).

3.4 Test Time. Not applicable.

3.5 Test Required Information. Not applicable.

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3.6 Personnel/Skills. The following individuals are necessary to complete this test procedure:

- 3.6.1** General Motors Design Release Engineer.
- 3.6.2** General Motors Validation Engineer.
- 3.6.3** Testing Organization's Test Engineer.
- 3.6.4** Testing Organization's Test Technician.

4 Procedure

4.1 Preparation.

4.1.1 Visual Inspection. The Design Release Engineer shall visually inspect the seat assembly for:

- Correct part numbers
- Quality of frame welds
- Proper fit and assembly
- Presence of all required parts

4.1.2 Mounting.

4.1.2.1 Mount the seat subsystem on the appropriate model mounting blocks.

4.1.2.2 Include mounting spacers if specified for installation.

4.1.3 Adjustment Setting.

4.1.3.1 If so equipped, set all adjustments of the seat to design position.

4.1.3.2 The seat cushion extension has to be adjusted to the fully extended position.

4.2 Conditions.

4.2.1 Environmental Conditions. Unless otherwise specified in the Subsystem Technical Specification (STS), conduct the test in a room temperature environment.

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 Place the round pressure plate on a position of 50 mm rearward from the forefront surface of the seat cushion extension and 120 mm from the centerline of the seat cushion as shown in Figure 1.

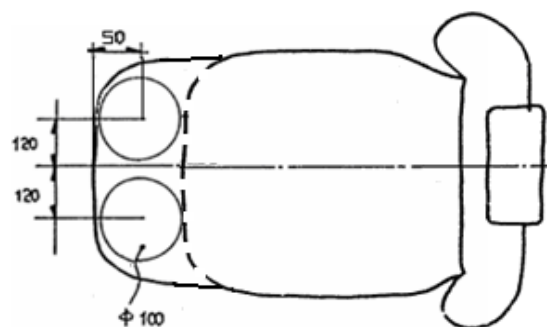


Figure 1: Load Application Point (all measurements in millimeters)

4.3.2 Apply a load of 30 kg and continue the loading procedure until it reaches the total cycle specified in STS.

4.3.3 After completion of the loading in 4.3.2, apply a load of 100 kg on the position for cycles specified in STS.

4.3.4 The waveforms of the loading shall be those in Figure 2. It shall contain 0.5 s of duration and relaxation time.

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