



Jounce and Squirm 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 seat system durability when subjected to occupant twisting and bouncing in the seat.

1.2 Applicability. This test shall be applied to all General Motors passenger cars and light and medium duty trucks. It is only applicable to rear seats without door entry.

1.3 Remarks. Not applicable.

2 References

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

2.1 External Standards/Specifications.

SAE J826

2.2 GM Standards/Specifications.

None

2.3 Additional References.

- Burke E. Porter. (bepco.com)
- GM approved Test Report.
- Seat subsystem cycle life requirement.
- Seating arrangement drawing.
- Subsystem Technical Specification (SSTS).
- Trim cover cycle life requirement.

3 Resources

3.1 Facilities. An approved GM certified test lab with an adequate bedplate or equivalent work surface necessary for mounting of the test sample and associated test fixtures.

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 Blocks. Appropriate model mounting blocks (stanchions, fixtures and/or brackets) to secure seat subsystem in body position with representative anchorages to the vehicle body.

3.2.2 Saddle. A saddle representing an occupant (as described by the currently approved SAE J826 3D form), covered with 12.5 mm of foam pad with a density of (48 to 80) kg/m³ ((3 to 5) lb/ft³) and covered with number ten (#10) fabric cloth cover. See Appendix A, Figure A1 and Figure A2.

Note: The cover must be changed every 50 000 cycles.

3.2.3 Actuators. Hydraulic or pneumatic operated actuators with capacity of the required strokes.

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3.2.4 Hydraulic or Pneumatic Equipment. Regulators, flow valves, air hoses, and other necessary equipment to support the actuators.

3.2.5 Electronics. Programming unit, timer, limit switches and other necessary pneumatic controls.

3.2.6 Weight. Sufficient weights to apply the specified load requirements identified in the Subsystem Technical Specification (SSTS).

3.2.7 Seat Fatigue Machine. A Burke E. Porter Model 104 or equivalent.

3.2.8 String Potentiometer.

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.

3.4 Test Time.

Calendar time: 5 days

Test hours: 32 h

Coordination hours: 8 h

3.5 Test Required Information.

3.5.1 Obtain from the seating arrangement drawing or from the Design Release Engineer, the design position of the seat adjuster, the seat back angle, the cushion frame angle, and the saddle angle.

3.5.2 Ensure that a new saddle cover has been applied to the test saddle.

3.5.3 Ensure that the test sample has had an H-Point Verification test and that a Verification form is available for attachment to the GM approved Test Report. If an H-Point Verification test has not been performed, one must be done before proceeding with this test.

3.6 Personnel/Skills.

3.6.1 The following individuals are necessary to complete this test procedure:

3.6.1.1 General Motors Design Release Engineer.

3.6.1.2 General Motors Validation Engineer.

3.6.1.3 Testing organization's Test Engineer.

3.6.1.4 Testing organization's Test Technician.

4 Procedure

4.1 Preparation.

4.1.1 Visual Inspection. The Design Release Engineer and Validation Engineer shall visually inspect the seat assembly for correct part numbers, quality of frame welds, proper fit and assembly and the presence of all required parts.

4.1.2 Mounting. Rigidly attach the seat subsystem including mounting blocks, or equivalent, simulating the floor attachment points to mount the seat subsystem in body position on a bed plate.

4.1.3 Test Setup.

4.1.3.1 Adjust the fatigue machine table to a full horizontal position and lift both cushion saddles to the full-up position with the air cylinder. Block the machine table so it cannot fall below the horizontal position.

Note: It is recommended that adequate safety precautions be taken to guard against a line air pressure loss when the machine heads are supported in the up position.

4.1.3.2 Securely mount the fixture described in 4.1.2 to the fatigue machine table.

4.1.3.3 Secure the seat subassembly to the fixture and set the applicable adjustment features as follows:

4.1.3.3.1 Set the slide adjuster in the design position.

4.1.3.3.2 Set the height adjuster in the design position.

4.1.3.3.3 Remove the seat back or recline it out of position so there is no interference between the saddle and the seat back.