



Hydraulic Strut and Shock High Speed, High Temperature Spit 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. Testing of sealing performance of struts and shocks during high speed, high temperature operating conditions.

1.2 Applicability. This procedure applies to all suspension hydraulic struts and shocks.

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.

Component Technical Specification (CTS)

3 Resources

3.1 Facilities. A servo-hydraulic vibration damper testing machine is required. For reference test specimen holder, see Figure 1. Attachment fixtures specific to damper being tested may be required. Test stations shall be capable of producing a sine wave input with required velocity.

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 Calibrated measuring instruments (permissible tolerance is 1% for machines and measuring devices) for recording the test specimen temperature during the durability test.

3.2.2 Cooling device for cooling the test specimen during the spit test may be used only if required to maintain target temperatures during the course of the test as described in Table 1.

3.2.2.1 Cooling fluid: Water.

3.2.2.2 Cooling jacket cooling water inlet: In the vicinity of the piston rod guide.

3.2.2.3 Cooling jacket cooling water outlet: In the vicinity of the base valve.

3.2.3 The test specimen shall be subjected to a lateral force F_m , in the vicinity of the piston rod guide. See Figure 1 or Figure 2.

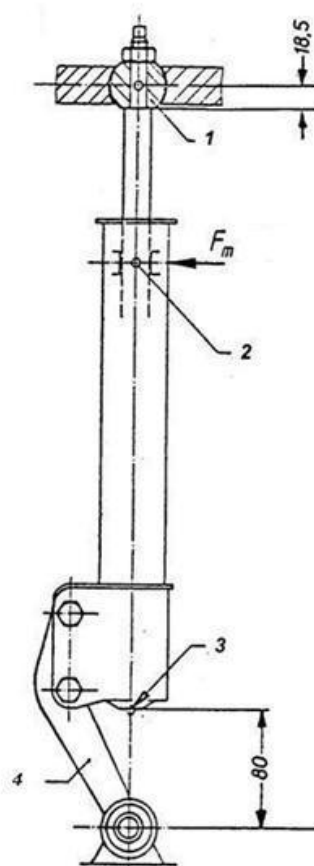
3.3 Test Vehicle/Test Piece. A minimum number of samples to meet the reliability and confidence for validation (i.e., 99% reliability with 50% confidence) should be tested for validation purposes. Typically six samples should be tested.

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Note:

- 1 = Ball
- 2 = Center of Guide
- 3 = Temperature Measuring Point
- 4 = Adapter

Dimensions are reference. Use application specific dimensions

Figure 1: Reference Strut

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