



Brake Hose Fluid Volume Uptake Under Pressurization

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 shall be used to determine the amount of internal hose volume increase that occurs under pressurization at both ambient and elevated temperatures.

1.2 Applicability. Brake hoses when pressurized, to measure the volume increase.

2 References

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

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

GMW3056 GMW16955

2.3 Additional References.

Material Specification

3 Resources

3.1 Facilities.

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 One (1) linear unit with electric stepper motor.

3.2.2 One (1) pressure actuation cylinder.

3.2.3 Two (2) ceramic stop valves.

3.2.4 One (1) filler/bleeder.

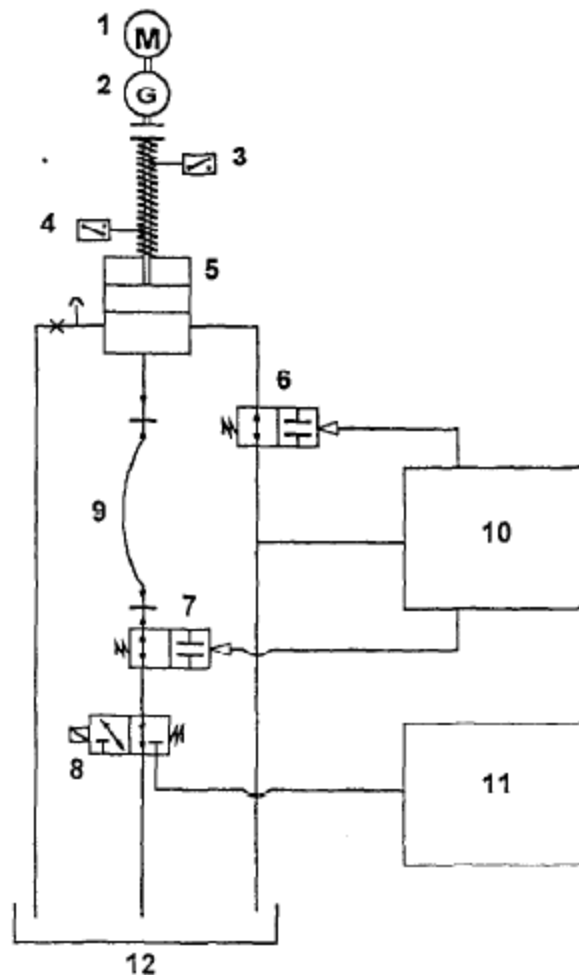
3.2.5 One (1) pressure gauge.

3.2.6 One (1) travel sensor.

3.2.7 One (1) measurement recording/evaluating system.

3.2.8 The configuration of the test stand for the measurement shall be as indicated in Figure 1.

Figure 1: Test Stand for Volume Uptake Measurement

**Key:**

- 1 = Engine
- 2 = Alternator
- 3 = Limit Switch One (1)
- 4 = Limit Switch Two (2)
- 5 = Pressure Actuation Cylinder
- 6 = Valve One (1)
- 7 = Valve Two (2)
- 8 = Valve Three (3)
- 9 = Brake Hose
- 10 = Electro Pneumatic Control
- 11 = Filler/Bleeder
- 12 = Brake Fluid Reservoir

3.3 Test Vehicle/Test Piece.

3.3.1 Test Material. The number of brake hoses to be tested is dependent on the material specification referencing this test procedure (e.g., GMW3056). The default number is six (6) samples.

3.4 Test Time. Reference the lab test procedures in Section 4.3 for timing details.

3.5 Test Required Information. See 5.3.

3.6 Personnel/Skills. Conform to company and/or laboratory requirements. Technician training records must be available upon request.