



SURFACE VEHICLE RECOMMENDED PRACTICE

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Test Procedures for Determining Air Brake Valve Input-Output Characteristics

RATIONALE

This technical report is being stabilized because it covers technology, products and processes which are mature and not likely to change in the foreseeable future.

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1. SCOPE

This SAE Recommended Practice establishes uniform test procedures for determining input-output characteristics for those pilot-operated and mechanically actuated, modulating-type valves and through-type valves used in the service brake control system.

1.1 Input-Output Characteristics

- a. Crack (opening) pressure or force
- b. Pressure differential (input-output)
- c. Hysteresis (increasing-decreasing pressure)

1.2 Pilot-Operated Modulating-Type Valves

- a. Relay Valve
- b. Ratio relay valve
- c. Decaying ratio relay valve
- d. Booster relay valve
- e. Relay Valve with two-way check valve
- f. Relay Emergency

1.3 Mechanically Actuated Modulating-Type Valves

- a. Dual service brake valve

1.4 Through-Type Valves

- a. Quick release valve
- b. Tractor protection valve
- c. Limiting valve
- d. Gladhand with quick release valve
- e. Modulator Valve (ABS)
- f. Tractor protection valve with two-way check valve(s)

1.5 Purpose

This document is intended as a guide toward standard practice but may be subject to frequent change to keep pace with experience and technical advances, and this should be kept in mind when considering its use. This document provides a uniform definition of input-output characteristics of pneumatic valves designed to operate in 931 kPa (135 psi) nominal pressure air brake systems and establishes uniform test procedures to determine these characteristics. This document serves as a supplement to SAE J1409.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), www.sae.org.

SAE J844	Nonmetallic Air Brake System Tubing
SAE J1402	Automotive Air Brake Hose and Hose Assemblies
SAE J1409	Air Brake Valves Test Procedure
SAE J1410	Air Brake Valve - Performance Requirements