

Labeling Air Brake Valves with Their Performance (Input-Output) characteristics

RATIONALE

This document has been updated in keeping with the five-year review process. The Supply and Controls Components Committee has approved revisions to SAE J1409 and SAE J1410 and applicable changes to SAE J1860 are being made in this revision.

1. SCOPE

This SAE Recommended Practice applies to those air brake system valves used to control the vehicle service brakes and test procedures defined by SAE J1859 to measure performance characteristics. This Recommended Practice adheres to standard industry practice of using English units for specifying valve characteristics.

1.1 Purpose

The purpose of this document is to provide a means of identifying vehicle air brake system components with performance (input-output) characteristics. This labeling procedure intends to identify and facilitate proper in-service valve replacement. Nomenclature and test procedure are defined in either SAE J656 or SAE J1859 respectively.

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 J10 Automotive and Off-Highway Air Brake Reservoir Performance and Identification Requirements - Truck and Bus
- SAE J656 Automotive Brake Definitions and Nomenclature
- SAE J1859 Test Procedures for Determining Air Brake Valve Input-Output Characteristics

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2.1.2 ASTM Publication

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM B 117 Method of Salt Spray (Fog) Testing

3. LABEL

The label (per Figure 1) shall consist of a corrosion resistant tag or decal. The tag or decal shall withstand ASTM B 117 (240 h salt spray) and remain legible and attached to the valve.

Text characters for the label code shall be a minimum of 0.305 cm (0.120 in) high. Text characters for the optional information shall be a maximum of 0.305 cm (0.120 in) high.

1.	MANUFACTURER NAME OR LOGO (OPTIONAL)
2.	LABEL CODE
3.	CUSTOMER NUMBER (OPTIONAL)
4.	PART NUMBER (OPTIONAL)
5.	OPTIONAL INFORMATION (DATE CODES, ETC.)

FIGURE 1 - LABEL

3.1 Label Code

The label code shall consist of five or more characters designating two or more characteristics of the valve. Valves with multiple functions utilize a hyphen (-) between characteristics and will list the characteristics in consecutive order, i.e., No. 1 circuit, No. 2 circuit, etc.

a. Valve type

b. Nominal crack pressure or force

1. Example 1: RV105

- The first two letters, RV, indicate the valve type as a relay valve
- The last three digits, 105, indicate the nominal crack pressure to be 10.5 psi

2. Example 2: BV105-030

- The first two letters, BV, indicate the valve type as a brake valve (foot valve)
- The next three digits, 105, indicate the nominal crack force to be 10.5 lbf
- The last three digits, 030, indicate the nominal crack pressure of the secondary (No. 2 and relay portion) circuit to be 3.0 psi

3. Example 3: RVDC050-135

- The first four letters, RVDC, indicate the valve type as a relay valve with double check
- The next three digits, 050, indicate the nominal crack force to be 5.0 psi
- The next three digits, 135, indicate the nominal crack pressure of the number 2 control circuit to be 13.5 psi

3.1.1 Valve Type

The letter designation for the valve types are listed as follows. For definitions of the types, refer to SAE J1859.

3.1.1.1 RV

Relay Valve

3.1.1.2 RE

Relay Emergency

3.1.1.3 RR

Ratio Relay Valve

3.1.1.4 RD

Decaying Ratio Relay Valve

3.1.1.5 RB

Booster Relay Valve

3.1.1.6 QR

Quick Release Valve

3.1.1.7 BV

Brake Valve (Foot Valve)

3.1.1.8 TP

Tractor Protection Valve

3.1.1.9 LV

Front Axle Limiting Valve

3.1.1.10 GQR

Gladhand with Quick Release

3.1.1.11 MV

Modulator Valve (ABS)

3.1.1.12 TPQR

Tractor Protection with Quick Release

3.1.1.13 MVQR

Modulator Valve (ABS) with Quick Release

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