SAE International™

SURFACE VEHICLE RECOMMENDED PRACTICE

SAE J1860

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

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

2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

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

2.1.2 ASTM PUBLICATION—Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

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 (96 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.

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Tel: 877-606-7323 (inside USA and Canada)
Tel: 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: custsvc@sae.org
SAE WEB ADDRESS: http://www.sae.org

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

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

2. Example 2: BV105-030

a. The first two letters, BV, indicate the valve type as a brake valve (foot valve)
b. The next three digits, 105, indicate the nominal crack force to be 10.5 lbf
c. 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

a. The first four letters, RVDC, indicate the valve type as a relay valve with double check
b. The next three digits, 050, indicate the nominal crack force to be 5.0 psi
c. 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

3.1.1.14 *RVDC*—Relay Valve with Double Check

3.1.1.15 *XX*—Other (not defined in SAE J1859 or SAE J656)

3.1.2 CRACK PRESSURE—The nominal crack pressure or nominal crack force designation is a three number sequence referring to the nominal value, per SAE J1859, as determined by the manufacturer. This value should be rounded to the nearest 0.1 psi or 0.1 lbf for pressure and force respectively.

4. Notes

4.1 Marginal Indicia—The change bar (l) located in the left margin is for the convenience of the user in locating areas where revisions have been made to the previous issue of the report. An (R) symbol to the left of the document title indicates a complete revision of the report.

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