SURFACE VEHICLE RECOMMENDED PRACTICE

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Superseding J1801 NOV2007

Brake Effectiveness Marking for Brake Blocks—Truck and Bus

RATIONALE

J1801 has been reaffirmed to comply with the SAE five-year review policy.

Foreword—Marking methodology in this SAE Recommended Practice is intended to provide the identification means to assist in the selection of replacement brake blocks. The normal and hot effectiveness rating values are intended to permit basic frictional performance comparisons between various different brake block lining materials, based on dynamometer test data from the reference full size brake assembly, as specified in SAE J1802.

This SAE Recommended Practice is intended as a guide toward standard practice and is subject to change to keep pace with experience and technical advances.

1. Scope

1.1 This SAE Recommended Practice provides the method to assign numerical values of brake effectiveness, using data from single station inertia dynamometer effectiveness tests, and to identify a uniform procedure to mark these values on the edge of brake blocks in excess of 12.7 mm (0.51 in) in thickness.

1.2 The edge markings are intended to provide relevant and meaningful data on the normal and hot effectiveness of brake blocks, using the reference full size brake assembly, to aid in the characterization of these brake block frictional properties.

1.3 This edge marking methodology is intended to permit accurate identification of the effectiveness values over the full wear life of the brake block. This is accomplished by means of permanent markings on one edge of the brake block.

1.4 **Purpose**—The purpose of this document is to provide a uniform method for marking numerical values of normal and hot effectiveness, on the edge of the brake blocks, based on test data developed by SAE J1802 and obtained from the reference full size brake assembly on a single station brake dynamometer.

2. References

2.1 **Applicable Publication**—The following publication forms 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 PUBLICATION—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J1802—Brake Block Effectiveness Rating

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3. Effectiveness Determination

3.1 The brake effectiveness, for this document, is a nondimensional value that is the average calculated from a minimum of three inertia dynamometer brake tests. Brake effectiveness is the ratio of the brake frictional output to brake force input as determined by the SAE J1802 test procedure.

3.2 The normal effectiveness values from a minimum of three dynamometer tests are arithmetically averaged to obtain the normal effectiveness rating.

3.3 Similarly, the hot effectiveness values from a minimum of three dynamometer tests are arithmetically averaged to obtain the hot effectiveness rating.

3.4 Both the normal effectiveness and hot effectiveness value are determined from the same dynamometer test run.

4. Marking

4.1 This procedure utilizes markings that are recessed into one edge (or side) of the brake block. Refer to Figure 1.

4.2 The numerical normal and hot effectiveness values shall consist of three-digit numbers in the range of 001 through 999, without a decimal point, (e.g., 8.9 would be marked 089), recessed to a depth of 0.2 mm (0.008 in) minimum, and 3.5 to 5.0 mm (0.14 to 0.20 in) in height.

4.3 The three-digit effectiveness numbers shall be separated by a dash (e.g., 089 – 093), and located in a 50 mm x 6 mm (2.0 in x 0.24 in) zone, centered in the middle 50 mm (2.0 in) of the edge (or side) of the block. Refer to Figure 1.

The first number shall indicate normal effectiveness; the second shall indicate hot effectiveness.

4.4 The 50 mm (2.0 in) zone shall be divided into nine equal spaces; each space shall be 5.6 mm (0.22 in) in width. Refer to Figure 1.

4.5 The 50 mm (2.0 in) zone shall be identified by a vertical line at each end of the zone; the two vertical lines shall be parallel and at least one half the thickness of the block, up from the ID of the block. Refer to Figure 1.