SAE The Engineering Society For Advancing Mobility Land Sea Air and Space®
INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

SURFACE VEHICLE RECOMMENDED PRACTICE

An American National Standard

SAE J257

REV. FEB97

Issued 1972-05
Revised 1997-02

Superseding J257 MAR85

(R) BRAKE RATING HORSEPOWER REQUIREMENTS—COMMERCIAL VEHICLES

Foreword—The 5-year revision of this document addresses only those changes needed for metrification and compatibility with the revisions of SAE J880, Brakes System Rating Test Code. Also it has been changed to comply with the SAE Technical Standards Board format. No change in the level of recommended performance is intended.

The performance requirements in this SAE Recommended Practice represent the accumulation of the best information available from investigation of the service brake system performance of new motor vehicles designed for roadway use. It reflects the requirements not only of long mountain grades, but also the demands of heavy traffic conditions which impose a relatively higher horsepower duty cycle on the lighter commercial vehicles that accelerate and decelerate more frequently and to higher speeds because of their substantially lower weight-to-horsepower ratio.

1. ***Scope***—The minimum performance values in this SAE Recommended Practice are applicable to vehicles with brake systems having typical service pressure ranges 0 to 14.1 MPa (0 to 2050 psi) hydraulic or 0 to 830 kPa (0 to 120 psi) air only. SAE J880 not only provides for determining maximum brake rating horsepower capability, but also permits verification of any desired or arbitrary level such as the requirement established herein. The determining criteria for deciding brake rating horsepower capability are:

a. Cold brake stopping ability.
b. Fade as a result of horsepower absorption.
c. Hot brake stopping ability following horsepower absorption.
d. Brake system stability following horsepower absorption.
e. Functional and structural integrity of brake system following test.

1.1 **Purpose**—The purpose of this document is to establish a minimum Brake Rating Power (BRP) level for commercial vehicles tested in accordance with SAE J880.

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.

SAE J880—Brake System Rating Test Code—Commercial Vehicles

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3. Requirements

3.1 When tested in accordance with SAE J880, the highest Brake Rating Power (BRP) achieved per Table 4 of SAE J880 must be not less than 6600 + (847*gvw/500) where: gvw = gross vehicle weight of the tested vehicle in kg or 12 + (1.4*gvw/1000) where: gvw = gross vehicle weight of the tested vehicle in lb.

3.2 Achievement of the BRP requirement in 3.1 depends absolutely upon compliance with the requirements of each portion of paragraph 6.3 in SAE J880, namely: cold stop, minimum deceleration, hot stop, stability, and final inspection.

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 technical 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.

PREPARED BY THE SAE BRAKE COMMITTEE AND AUTOMOTIVE SAFETY COMMITTEE