



400 Commonwealth Drive, Warrendale, PA 15096-0001

# SURFACE VEHICLE STANDARD

SAE J1363

REAF.  
NOV95

Issued 1985-01  
Reaffirmed 1995-11

Superseding J1363 JAN85

Submitted for recognition as an American National Standard

## CAPACITY RATING—DUMPER BODY AND TRAILER BODY

**Foreword**—This reaffirmed document has been changed only to reflect the new SAE Technical Standards Board Format.

1. **Scope**—This SAE Standard applies to dumper bodies as defined in SAE J1016 and dumper trailers as defined in SAE J734. It is similar to ISO 6483.

1.1 **Purpose**—The purpose of this document is to provide a uniform method for calculating the SAE rated volumetric capacity.

### 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 J734—Component Nomenclature—Dumper Trailer  
SAE J1016—Component Nomenclature—Dumpers

2.1.2 ISO PUBLICATION—Available from ANSI, 11 West 42nd Street, New York, NY 10036-8002.

ISO 6483—Earth-moving machinery—Dumper bodies—Volumetric rating

3. **Volumetric Capacity**—Standard rating shall include both struck and heaped capacities.

#### 3.1 **Body Position**

3.1.1 The body shall be positioned as if it were fully lowered on a machine on a horizontal surface with all tires at their static-loaded radius.

3.1.2 Any load retaining or ejecting device shall be positioned to give maximum volumetric capacity. This position must be within the device's normal hauling position.

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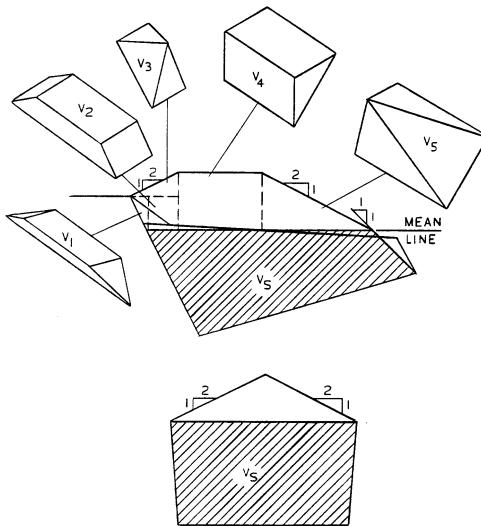


FIGURE 1—TYPICAL DUMPER BODY OR TRAILER BODY VOLUME COMPUTATION

### 3.2 Struck Volume

3.2.1 Struck volume of a dumper or trailer body shall be the volume enclosed by the interior surfaces of the body-bottom, sides, ejection or retention device, and the top plane through the mean lines of the body sides.

3.2.1.1 Mean lines are horizontal lines above which, in the side view of the body, there is an area of the body equal to the nonbody side area under the lines.

3.2.2 For bodies with one end or side open, the volume shall be limited by a plane passing through the outer edge of the opening and top corners of the adjacent side plates or at a slope of 1:1 extending inward and upward from the outer edge of the opening, whichever gives the smaller capacity.

3.2.3 Extension of end plates and supporting gussets above the sides shall not be included in the struck volume.

### 3.3 Heaped Capacity

3.3.1 Heaped capacity of a dumper or trailer body shall be the sum of the struck volume and the top volume enclosed by the four planes at a slope of two horizontal to one vertical (2:1) extending inward and upward from the mean lines of the sides and end plates or load-carrying extensions thereof. For bodies with open ends or sides, the 2:1 slope for heaped capacity shall start from the top of the 1:1 slope which determines struck volume.

3.3.2 Surfaces whose function is to protect against personal injury or machine damage are not to be considered as carrying surfaces for this analysis.

**4. Dumper and Trailer Body Ratings**

**4.1** Struck capacity shall be the calculated struck volume.

**4.2** Increments of struck and heaped capacity shall be based on the struck volume as follows in Table 1:

**TABLE 1—STRUCK VOLUME**

Range of Rated Size m <sup>3</sup> Struck	Increments m <sup>3</sup> (yd <sup>3</sup> )
Less than 10	0.1 (0.1)
10 to less than 50	0.5 (0.5)
50 and above	1 (1.0)

**4.3** The English equivalent capacity shall be a direct conversion of the actual metric capacity.

PREPARED BY THE SAE MACHINE TYPE TECHNICAL COMMITTEE SC1—  
LOADERS, CRAWLERS, SCRAPERS, AND MOUNTED ATTACHMENTS