

Issued	1978-12
Cancelled	2003-05

Superseding J43 FEB1988

Axle Application Load Rating for Industrial Wheel Loaders and Backhoe Loaders

Foreword—This Document has been cancelled due to limited demand.

The intent of this recommended practice is to limit declared axle load ratings. These latest editorial revisions bring this recommended practice closer to its original concept. It is intended to make this an interim document until a performance criteria document can be written.

1. **Scope**—The purpose of this SAE Recommended Practice is to establish a standardized method for determining maximum front and rear axle load ratings for industrial wheel loaders and backhoe loaders.
2. **References**
 - 2.1 **Applicable Publications**—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, 400 Commonwealth Drive, Warrendale, PA 15096-0001.
 - SAE J732 FEB80—Specification Definitions—Loaders
 - SAE J742 FEB85—Capacity Rating—Loader Bucket
3. **Front Axle Load Rating**—Front axle load rating shall be the load measured at the ground center of contact of the front tires under the following conditions. Resulting total weight will equal gross machine weight plus the load in the bucket (or downward force at bucket load center), limited by tipping.
 - a. The tractor shall have mounted a loader or loader-backhoe specified by the tractor manufacturer.
 - b. The loader shall be equipped with the largest recommended general purpose digging bucket.
 - c. The rated volume load in the bucket shall be per SAE J742.
 - d. The load in the bucket shall be per Section 3c with a material density of 1780 kg/m³ (3000 lb/yd³).
 - e. The tractor shall be configured with manufacturer's approved equipment or counterweighting for minimum rear axle weight to give a tipping load with center of gravity of load at maximum forward position in the raising cycle, (SAE Rating) as defined in SAE J732 of no less than 2.0 times the load described in Section 3d.
 - f. Where applicable, the backhoe is to be in transport position.

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4. **Rear Axle Load Rating**—Rear axle load rating shall be the load measured at the ground center of contact of the rear tires under the following conditions:
- a. The tractor shall be configured with manufacturer's approved equipment or counterweighting for maximum rear axle weight.
 - b. Position loader lift arm and empty bucket so that bucket bottom is flat on ground.
 - c. Rotate bucket onto the cutting edge until load at the front wheels is zero.
 - d. Where applicable, the backhoe is to be in transport position.

PREPARED BY THE SAE MACHINE TECHNICAL COMMITTEE SC1—LOADERS, CRAWLERS,
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