

ANSI/ITSDF B56.8-2011
(Revision of ANSI/ITSDF B56.8-2006)

SAFETY STANDARD FOR PERSONNEL AND BURDEN CARRIERS

AN AMERICAN NATIONAL STANDARD

INDUSTRIAL TRUCK STANDARDS DEVELOPMENT FOUNDATION

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FOREWORD

(This foreword is not part of ANSI/ITSDF B56.8-2011)

On November 23, 1976, the B56.8 Subcommittee started work on this Standard at the direction of the B56 Committee and the sponsor, the American Society of Mechanical Engineers (ASME). Following a number of work sessions and ballots within the Subcommittee and the B56 Standards Committee, it was submitted to ASME for B56 Committee ballot, public review, and secretariat approval. After obtaining such approval, the standard was approved by ANSI on February 17, 1981.

In accordance with its procedures, the B56.8 Subcommittee began work on a revision in June 1986. After approval by the B56 Committee and the sponsor, and after public review, this standard was approved by ANSI and designated as an American National Standard on May 17, 1988.

In February 1993, the Subcommittee met to consider revisions to the 1988 Edition. After approval by the B56 Committee and the sponsor, and after public review, a revision of the 1988 Edition was approved by ANSI and designated an American National Standard on August 30, 1993.

Following transfer of the B56 Committee from ASME to ITSDF, ASME B56.8-1993 was reaffirmed and redesignated as ANSI/ITSDF B56.8-2005.

After approval by the B56 Committee and after public review, a revision of ANSI/ITSDF B56.8 was approved by ANSI and designated an American National Standard on April 19, 2006.

The 2011 edition of B56.8 was approved by the American National Standards Institute on October 5, 2011.

This Standard shall become effective 1 year after its respective Date of Issuance. Part III applies only to trucks manufactured after the effective date.

Safety codes and standards are intended to enhance public health and safety. Revisions result from committee consideration of factors such as technological advances, new data, and changing environmental and industry needs. Revisions do not imply that previous editions were inadequate.

ITSDF STANDARDS COMMITTEE ROSTER B56 Powered and Nonpowered Industrial Trucks

(The following is the roster of the Committee at the time of approval of this Standard.)

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Carol Gardner, E-Z-GO Textron
Ross Lyons, Club Car Ingersoll-Rand
Martin Schramm, John Deere

ANSI/ITSDF B56.8-2011

SUMMARY OF CHANGES

Following approval by the ITSDF B56 Committee and after public review, ANSI/ITSDF B56.8-2011 was approved as a revision of ANSI/ITSDF B56.8-2006 on October 5, 2011. A summary of the changes follows.

Normative References – updated to current editions, and added “NFPA 70” and “ASTM E1337”

Definitions – added “Hybrid Personnel & Burden Carrier”, “Curb Weight” to Operating weight, “Payload” to Rated Capacity, and “Type designation is required if Approved”

6 General Safety Practices – changed paragraph reference in 6.2

9 Design and Construction – added “removable” and “or roll-out” to 9.2.3, revised reference in 9.3.5, added reference to ASTM E1337 in 9.4.1, changed grade to “1.0%” in 9.6.2 and included “refer to 9.4.1 (d)”, made 9.6.3 Service Brake Fade “Option 1” and added “Option 2”

Fig. 1 – added “Removable: and “or Roll-out”

Fig 4 – updated for clarity

Fig 5 - updated for clarity

Fig 6 - updated for clarity

Fig 7 - updated for clarity

Appendix A, References - updated to current editions

SPECIAL NOTE

The Interpretations to ANSI/ITSDF B56.8 are included at the end of this edition as a separate section for the user’s convenience. The interpretations are not part of this edition or of the standard itself.

POWERED AND NONPOWERED INDUSTRIAL TRUCKS

B56 SERIES INTRODUCTION

GENERAL

This Standard is one of a series that have been formulated with the Industrial Truck Standard Development Foundation as Sponsor in accordance with the Accredited Organization method, the procedures accredited by the American National Standards Institute, Inc., and the following scope:

Establishment of the safety requirements relating to the elements of design, operation, and maintenance; standardization relating to principal dimensions to facilitate interchangeability, test methods, and test procedures of powered and nonpowered industrial trucks (not including vehicles intended primarily for earth moving or over-the-road hauling); and maintenance of liaison with the International Organization for Standardization (ISO) in all matters pertaining to powered and nonpowered industrial trucks.

One purpose of the Standard is to serve as a guide to governmental authorities having jurisdiction over subjects within the scope of the Standard. It is expected, however, that the Standard will find a major application in industry, serving as a guide to manufacturers, purchasers, and users of the equipment.

For convenience, Standards of Powered and Nonpowered Industrial Trucks have been divided into separate volumes:

Safety Standards

- B56.1 Low Lift and High Lift Trucks
- B56.5 Guided Industrial Vehicles and Automated Functions of Manned Industrial Vehicles
- B56.6 Rough Terrain Forklift Trucks
- B56.7 Industrial Crane Trucks
- B56.8 Personnel and Burden Carriers
- B56.9 Operator Controlled Industrial Tow Trucks
- B56.10 Manually Propelled High Lift Industrial Trucks

Standardization Standards

- B56.11.1 Double Race or Bi-Level Swivel and Rigid Industrial Casters
- B56.11.3 Load Handling Symbols for Powered Industrial Trucks

- B56.11.4 Hook-Type Forks and Fork Carriers for Powered Industrial Forklift Trucks
- B56.11.5 Measurement of Sound Emitted by Low Lift, High Lift, and Rough Terrain Powered Industrial Trucks
- B56.11.6 Evaluation of Visibility From Powered Industrial Trucks
- B56.11.7 Liquefied Petroleum Gas (LPG) Fuel Cylinders (Horizontal or Vertical) Mounting – Liquid Withdrawal – for Powered Industrial Trucks

Safety standards that were previously listed as B56 volumes but now have different identification due to a change in standards development assignments are as follows:

- NFPA 505 Fire Safety Standard for Powered Industrial Trucks – Type Designations, Areas of Use, Maintenance and Operation (formerly B56.2)
- UL 583 Standard for Safety for Electric-Battery-Powered Industrial Trucks (formerly B56.3)
- UL 558 Standard for Safety for Internal Combustion Engine-Powered Industrial Trucks (formerly B56.4)

If adopted for governmental use, the references to other national codes and standards in the specific volumes may be changed to refer to the corresponding governmental regulations.

The use of powered and nonpowered industrial trucks is subject to certain hazards that cannot be completely eliminated by mechanical means, but the risks can be minimized by the exercise of intelligence, care, and common sense. It is therefore essential to have competent and careful operators, physically and mentally fit, and thoroughly trained in the safe operation of the equipment and the handling of the loads. Serious hazards are overloading, instability of the load, obstruction to the free passage of the load, collision with objects or pedestrians, poor maintenance, and use of equipment for a purpose for which it was not intended or designed.

Suggestions for improvement of these Standards, especially those based on actual experience in their application, shall be submitted to the Secretary of the

B56 Committee, ITSDF, 1750 K Street NW, Suite 460, Washington DC 20006.

Comments shall be written in accordance with the following format:

(a) specify paragraph designation of the pertinent volume;

(b) indicate suggested change (addition, deletion, revision, etc.);

(c) briefly state reason and/or evidence for suggested change;

(d) submit suggested changes to more than one paragraph in the order in which they appear in the volume.

The appropriate B56 Subcommittee will consider each suggested revision at its first meeting after receipt of the suggested revision(s).

SAFETY STANDARD FOR PERSONNEL AND BURDEN CARRIERS

Part I - Introduction

1. SCOPE

This Standard defines safety requirements relating to the elements of design, operation, and maintenance of powered personnel and burden carriers having three or more wheels, a maximum speed not exceeding 40 km/h (25 mph), and a payload capacity not exceeding 4536 kg (10,000 lb). This Standard does not include vehicles intended primarily for earth moving or over-the-road hauling, or unmanned automatic guided vehicles.

2. PURPOSE AND EFFECTIVE DATE

The purpose of this Standard is to promote safety in the application, operation, and maintenance of personnel and burden carriers. This Standard may be used as a guide by governmental authorities desiring to formulate safety rules and regulations. This Standard is also intended for voluntary usage by those associated with either the manufacture or use of personnel and burden carriers. This Standard shall become effective 1 year after date of issuance. Part III applies only to personnel and burden carriers manufactured after the effective date.

(11) 3. NORMATIVE REFERENCES

The following are safety standards and codes (unless otherwise noted) referenced within this Standard. It is the intent of this Standard to refer to the standards and codes listed below in their latest editions when they are referenced within the Standard.

NASA-STD-3000, Revision B, July 2003, Man-Systems Integration Standards, Volume I, Section 3, ANTHROPOMETRY AND BIOMECHANICS

ANSI/NFPA 30-2008 Flammable and Combustible Liquids Code

ANSI/NFPA 58-2011 Storage and Handling of Liquefied Petroleum Gases

ANSI/NFPA 70-2011 National Electrical Code

ANSI/NFPA 505-2011 Fire Safety Standard for Powered Industrial Trucks – Type Designations, Areas of Use, Maintenance and Operation

ANSI/UL 558 (2010) Standard for Safety for Internal-Combustion-Engine-Powered Industrial Trucks

ANSI/UL 583 (2010) Standard for Safety for Electric-Battery-Powered Industrial Trucks

ACGIH Publication Threshold Limit Values for Chemical Substances and Physical Agents in the Workroom Environment (updated annually)

ASTM E1337 - 90(2008) Standard Test Method for Determining Longitudinal Peak Braking Coefficient of Paved Surfaces Using Standard Reference Test Tire

SAE J843 – Mar 97 Brake System Road Test Code— Passenger Car and Light-Duty Truck

SAE J1718 -Stabilized Measurement procedure for Hydrogen gas emissions

4. DEFINITIONS

Accelerator – a device that controls the speed of a carrier

Approved – the word approved means the classification or listing as to fire, explosion, and electric shock hazard by a nationally recognized testing laboratory, i.e., a laboratory qualified and equipped to conduct examinations and tests. Type designation is required if Approved. (11)

Brake, parking – a device(s) to prevent inadvertent movement of the stationary vehicle

Brake, service – a device designed to bring a moving carrier to a stop

Carrier, battery-electric – an electric carrier in which the power source is a storage battery

Carrier, electric personnel and burden – a carrier in which the principal energy is transmitted from power sources to motor(s) in the form of electricity

Carrier, hybrid personnel and burden - a carrier which combines two or more sources of power that can directly or indirectly provide propulsion power. (11)

Carrier, personnel and burden – a mobile, power-driven machine, which is not self-loading, used for transporting material and/or personnel on indoor and outdoor improved surfaces, but not for use on public roads

Center of gravity (of test load) – that point at which the load mass is concentrated. It is located horizontally in the