

# ANSI/ITSDF B56.10-2019

(Reaffirmation of ANSI/ITSDF B56.10-2012)



# SAFETY STANDARD FOR MANUALLY PROPELLED HIGH LIFT INDUSTRIAL TRUCKS

---

**AN AMERICAN NATIONAL STANDARD**

**INDUSTRIAL TRUCK STANDARDS DEVELOPMENT FOUNDATION**

*Each B56 Standard is available free of charge from ITSDF. Each standard is copyrighted by ITSDF and may not be published, reproduced, distributed or otherwise made publicly available without the prior written consent of ITSDF. Please visit [www.ITSDF.org](http://www.ITSDF.org) to ensure that you have the most recent version.*

Date of Issuance: July 3, 2012

ITSDF issues written replies to inquiries concerning interpretations of technical aspects of this Standard. Interpretations are published on the ITSDF Web site at <http://www.itsdf.org> as they are issued, and will also be published within the next edition of the Standard.

ITSDF is the registered trademark of Industrial Truck Standards Development Foundation.

This code or standard was developed under procedures accredited as meeting the criteria for American National Standards. The Standards Committee that approved the code or standard was balanced to assure that individuals from competent and concerned interests have had an opportunity to participate. The proposed code or standard was made available for public review and comment that provides an opportunity for additional public input from industry, academia, regulatory agencies, and the public-at-large.

ITSDF does not "approve," "rate," or "endorse" any item, construction, proprietary device, or activity.

ITSDF does not take any position with respect to the validity of any patent rights asserted in connection with any items mentioned in this document, and does not undertake to insure anyone utilizing a standard against liability for infringement of any applicable letters patent, nor assume any such liability. Users of a code or standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, is entirely their own responsibility.

Participation by federal agency representative(s) or person(s) affiliated with industry is not to be interpreted as government or industry endorsement of this code or standard.

ITSDF accepts responsibility for only those interpretations of this document issued in accordance with the established ITSDF procedures and policies, which precludes the issuance of interpretations by individuals.

Industrial Truck Standards Development Foundation  
1750 K Street NW, Suite 460, Washington DC 20006  
<http://www.itsdf.org>

Copyright © 2019 by  
INDUSTRIAL TRUCK STANDARDS DEVELOPMENT FOUNDATION  
All rights reserved  
Printed in the U.S.A.

# CONTENTS

Foreword.....	iii
Committee Roster .....	iv
Summary of Changes.....	v
B56 Series Introduction .....	vi
<b>Part 1 Introduction.....</b>	<b>1</b>
1 Scope .....	1
2 Purpose .....	1
3 Interpretation .....	1
<b>Part 2 For the User .....</b>	<b>1</b>
4 General Safety Practices.....	1
5 Operating Safety Rules and Practices.....	6
6 Maintenance and Rebuild Practices.....	8
<b>Part 3 For the Manufacturer .....</b>	<b>10</b>
7 Design and Construction Standards.....	10
<b>Appendix A References.....</b>	<b>15</b>
<b>Appendix B Glossary of Commonly Used Words and Phrases.....</b>	<b>16</b>
<b>Figures</b>	
1 Typical Fork .....	13
<b>Tables</b>	
1 Manually Propelled High Lift Trucks.....	12

## FOREWORD

(This foreword is not part of ANSI/ITSDF B56.10-2019)

At the January 1988 meeting of the B56.11 Subcommittee, a suggestion was made that a safety standard for manually propelled high lift industrial trucks be developed. An agreement was made to contact the known manufacturers of this type of equipment to determine if there was sufficient interest in such a standard. After determining that there was sufficient interest, the B56.11 Subcommittee, at its June 1988 meeting, voted to establish a task group to develop such a standard.

The first meeting of the task group was held November 1988. A number of assignments were made to draft portions of the proposed standard. After several meetings of the task group, the B56.11 Subcommittee voted to recommend to the B56 Main Committee that this task group become a permanent subcommittee of the B56 Committee. At its November 1989 meeting, the B56 Committee voted to elevate the status of the task group to a Subcommittee (B56.10) of the B56 Committee.

After several meetings of the Subcommittee and, following subcommittee letter ballot approval, the proposed B56.10 Standard was submitted for the approval of the B56 Main Committee.

Following approval by the B56 Committee and ASME, and after public review, ASME B56.10-1992 was approved by the American National Standards Institute on April 29, 1992.

After transferring the management of the B56 Committee from ASME to ITSDF, ASME B56.10-1992 was reaffirmed and redesignated as ANSI/ITSDF B56.10-2005. After approval by the B56 Committee and after public review, a revision of ANSI/ITSDF B56.10 was approved by ANSI and designated an American National Standard on August 23, 2006.

The reaffirmation of ANSI/ITSDF B56.10-2006 was approved by ANSI and designated an American National Standard on June 20, 2012.

The reaffirmation of ANSI/ITSDF B56.10-2012 was approved by ANSI and designated an American National Standard on February 7, 2019.

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.)

**D.M. Graham**, *Chair*  
**J.E. Johnson**, *Vice Chair*  
**C.F. Merther**, *Secretary*

### **COMMITTEE PERSONNEL**

**Jimmy Eavenson**, Eavenson Consulting, LLC.  
**Rudy Fiers**, AR Safety  
**Dennis Graham**, Rite Hite Corporation  
**Ron Graunstadt**, U.A.W.  
**Mats Herrstromer**, AGVE  
**John Johnson**, Johnson Engineering Services, Inc.  
**Donald Labelle**, Betsie Bay Consulting

**Steve McDermitt**, Crown Equipment  
**David Norton**, The Raymond Corporation  
**Jeff Rhinehart**, KION North America  
**Rolland Riley**, U.S. Army TARDEC  
**Mark Tepen**, Ford Motor Company  
**Richard Ward**, MHI/ Round Prairie Engineering

### **SUBCOMMITTEE B56.10 – MANUALLY PROPELLED HIGHLIFT INDUSTRIAL TRUCKS**

**Steven McDermitt**, *Chair*, Crown Equipment  
**Alan Bartels**, The Raymond Corporation  
**Ron Graunstadt**, U.A.W.  
**Michael Rogers**, Caulfield Engineering  
**Mark Tepen**, Ford Motor Company  
**Luke Webber**, MCFA

*Alternate*

**Joseph Yahner** (Alt. to Bartels), The Raymond Corporation

## **ANSI/ITSDF B56.10-2019 SUMMARY OF CHANGES**

Following approval by the ITSDF B56 Committee and after public review, ANSI/ITSDF B56.10-2019 was approved as a reaffirmation of ANSI/ITSDF B56.10-2012 by ANSI on February 7, 2019. No changes were made.

## 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 Developing 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
- B56.8 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
- B56.11.4 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
- B56.11.6.1 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 MANUALLY PROPELLED HIGH LIFT INDUSTRIAL TRUCKS

## Part I - Introduction

### 1. SCOPE

This Standard defines the safety requirements relating to the elements of design, operation, and maintenance of manually propelled high lift industrial trucks controlled by a walking operator, and intended for use on level, improved surfaces.

### 2. PURPOSE

The purpose of this Standard is to promote safety through the design, construction, application, operation, and maintenance of manually propelled high lift industrial trucks.

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 use by others associated with manufacturing or use of manually propelled high lift industrial trucks.

### 3. INTERPRETATION

#### 3.1 Mandatory and Advisory Rules

To carry out the provisions of this Standard, the word *shall* is to be understood as mandatory and the word *should* as recommended.

#### 3.2 Classification of Approved Trucks

The word *approved* means the classification or listing of manually propelled high lift industrial trucks as to fire, explosion, and electric shock hazard by a nationally recognized testing laboratory.

#### 3.3 Requests for Interpretation

The B56 Committee will render an interpretation of any requirement of this Standard. Interpretations will be rendered only in response to a written request sent to the Secretary of the B56 Committee, ITSDF. The request for interpretation shall be in the following format.

Subject: Cite the applicable paragraph number(s) and provide a concise description.

Edition: Cite the applicable edition of the pertinent standard for which the interpretation is being requested.

Question: Phrase the question as a request for an interpretation of a specific requirement suitable for general understanding and use, not as a request for approval of a proprietary design or situation. The inquirer may also include any plans or drawings, which are necessary to explain the question; however, they should not contain proprietary names or information.

ITSDF procedures provide for reconsideration of any interpretation when or if additional information, which might affect an interpretation is available. Further, persons aggrieved by an interpretation may appeal to the cognizant ITSDF Committee or Subcommittee. ITSDF does not "approve," "certify," "rate," or "endorse" any item, construction, proprietary device, or activity.

### 3.4 Metric Conversions

The values stated in metric are to be regarded as the standard. U.S. customary units are maintained in the User's section (in parenthesis) as information for those not familiar with metric units. The conversion to U.S. customary is a direct (hard) conversion from the SI units.

## PART II - For the User

### 4 GENERAL SAFETY PRACTICES

#### 4.1 Introduction

4.1.1 Like other vehicles, manually propelled high lift industrial trucks can cause injury if improperly used or maintained.

4.1.2 Part II contains broad safety standards applicable to truck operations. Only operators trained to adhere strictly to the operating instructions stated in section 5 shall be permitted to operate manually propelled high lift industrial trucks. Unusual operating conditions may require additional safety precautions and special instructions.

#### 4.2 Modifications, Nameplates, Markings, and Capacity

4.2.1 Except as provided in paragraph 4.2.2, no modification or alterations to a manually propelled high