

# ANSI/ITSDF B56.11.4-2018

(Reaffirmation of ANSI/ITSDF B56.11.4-2013)



# HOOK-TYPE FORKS AND FORK CARRIERS FOR POWERED INDUSTRIAL FORKLIFT TRUCKS

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**AN AMERICAN NATIONAL STANDARD**

**INDUSTRIAL TRUCK STANDARDS DEVELOPMENT FOUNDATION**

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## FOREWORD

(This foreword is not part of ANSI/ITSDF B56.11.4-2018)

This Standard is a revision and redesignation of ANSI MH11.1.4-1973, which had been developed by the American National Standard by the American National Standards Committee MH11, Hand-or Power-Operated Handling Trucks. In December 1982, the activities of the MH11 Committee were incorporated into the scope of the ASME B56 Committee with the MH11 Committee becoming the B56.11 Subcommittee. As a result of this consolidation, the title of the B56 Committee was changed to Committee on Powered and Nonpowered Industrial Trucks. All MH11 Standards, when revised, are to be redesignated as B56.11 Standards.

The first edition of B56.11.4 was approved by the B56 Committee, by ASME, and, after public review, by the American National Standards Institute, on February 8, 1985.

The first revision of B56.11.4-1985 was approved by the B56 Committee, by ASME, and, after public review, by the American National Standards Institute on October 18, 1988.

The second revision of B56.11.4-1995 was approved by the B56 Committee, by ASME, and after public review, by the American National Standards Institute on January 13, 1992.

On September 1, 2005, management of the B56 Standards Committee and its subcommittees was transferred from ASME to the Industrial Truck Standards Development Foundation. This Standard was reaffirmed and redesignated as ANSI/ITSDF B56.11.4 by the B56 Standards Committee after references to ASME were changed to ITSDF.

The 2013 edition of B56.11.4 was approved by the American National Standards Institute on March 7, 2013.

The 2018 reaffirmation of B56.11.4 was approved by the American National Standards Institute on December 19, 2018.

This Standard shall become effective 1 year after its respective Date of Issuance.

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

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## **ANSI/ITSDF B56.11.4-2018 SUMMARY OF CHANGES**

Following approval by the ITSDF B56 Committee and after public review, ANSI/ITSDF B56.11.4-2018 was approved as a reaffirmation of ANSI/ITSDF B56.11.4-2013 on December 19, 2018. No changes were made to the standard except for corrections previously identified by errata.

## 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
- B56.8 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 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).



# HOOK-TYPE FORKS AND FORK CARRIERS FOR POWERED INDUSTRIAL FORKLIFT TRUCKS

## 1 SCOPE

The scope of this Standard encompasses standards relative to hook-type fork carriers and the attaching elements of fork arms and load handling attachments for forklift trucks, in relation to manufacturers rated capacities of trucks up to and including 11,000 kg (24,000 lb).

## 2 EXPLANATION

The purpose of this Standard is to establish standards relative to the interchangeability of hook-type fork arms on fork carriers of forklift trucks, and to the mounting of load handling attachments in relation to the manufacturers rated capacities, up to and including 11,000 kg (24,000 lb).

## 3 INTERPRETATION

### 3.1 Mandatory and Advisory Rules

To carry out the provisions of this Standard, all items are mandatory except for those including the word *should*, which are recommendations. For terminology not included in this publication, refer to ANSI Z94.0

### 3.2 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.

## 4 DESIGN AND CONSTRUCTION STANDARDS

(a) The forks for forklift trucks shall be constructed in accordance with Fig. 1 and Table 1.

(b) The center of gravity of a fork arm should be described in accordance with Fig. 2.

(c) The fork carrier for forklift trucks should be constructed in accordance with Fig. 3 and Table 2.

(d) The upper edge of the fork carrier shall have notches spaced across its entire length. This spacing shall be as follows:

(1) one notch located on the center line of the carrier;

(2) one notch located on each side of the center notch spaced as shown in Table 2, Column *p*.

(3) The remaining notches shall be spaced at a maximum dimension of 100 mm (4 in.) center-to-center of the notches.

(e) Where locating notches other than those normally specified by the manufacturer are required by the application involved, their spacing shall be agreed upon between the user and the manufacturer.

(f) The lower edge of the fork carrier shall also be provided with a notch for use as an alternate centering method for attachment installation. The dimensions of the notch and one notch on either side of center in the upper edge of the fork carrier shall conform to those shown in Fig. 4 and specified in Table 2. This notch will also facilitate installation and removal of fork arms.

(g) The number of classes has been minimized to a practical limit. At or near the upper limit of each capacity range, the next larger mounting class may be used.

(h) The dimensions of each class relate to the mounting details only, and should not be interpreted to influence strength and other design features of the carrier or forks.

(i) Either a plate or two bars may be used for fork mounting.

(j) The thickness of plate or bars is not a part of this Standard.

(k) The plate or bars and back face of the forks shall not bow convexly toward each other.

(l) In addition to the means described in (n), stops shall be provided at the extremities of the carrier to prevent lateral disengagement of the forks.