

ANSI/ITSDF B56.11.7-2011

(Revision of ANSI/ITSDF B56.11.7-2005)

LIQUID PROPANE GAS (LPG) FUEL CYLINDERS (HORIZONTAL OR VERTICAL) MOUNTING – LIQUID-WITHDRAWAL - FOR POWERED INDUSTRIAL TRUCKS

AN AMERICAN NATIONAL STANDARD

INDUSTRIAL TRUCK STANDARDS DEVELOPMENT FOUNDATION

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FOREWORD

(This foreword is not part of ANSI/ITSDF B56.11.7-2011)

On December 9, 1993, the ASME B56.11 Subcommittee began work on this Standard at the direction of the B56 Committee. Following a number of meetings, it was approved by the Subcommittee and submitted to the ASME B56 Committee on Powered and Nonpowered Industrial Trucks.

After several B56 Committee ballots and public review, the standard was approved by the B56 Committee, by ASME and by the American National Standards Institute on June 2, 1998.

Following reaffirmation by the ITSDF B56 Committee and after public review, ANSI/ITSDF B56.11.7 was approved as a reaffirmation and redesignation of ASME B56.11.7-1998 by the American National Standards Institute on September 1, 2005.

The 2011 edition of B56.11.7 was approved as an American National Standard by the American National Standards Institute on July 15, 2011.

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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Bob Downey (Alt. to Lyle), NACCO
Dennis Graham (Alt. to Tepen), Ford Motor Company
Dave Norton (Alt. to Bartels), Raymond

ANSI/ITSDF B56.11.7-2011 SUMMARY OF CHANGES

Following approval by the ITSDF B56 Committee and after public review, ANSI/ITSDF B56.11.7-2011 was approved as a revision by ANSI on July 15, 2011. The revision consists of the addition of quick disconnects to Fig. 1.

ERRATA ISSUED 9 DECEMBER 2011:

An editorial error was made in ITSDF B56.11.7-2011. The correction has been made in this version. The corrected version of the standard was posted 9 December 2011 on www.itsdf.org.

<i>Page</i>	<i>Location</i>	<i>Change</i>
3	Fig. 1	In the table for Dimension A (lower left of Fig. 1), “20# [19.1 kg]” should be “20# [9.1 kg].”

ERRATA ISSUED 12 SEPTEMBER 2012:

An editorial error was made in ITSDF B56.11.7-2011. The correction has been made in this version. The corrected version of the standard was posted 12 September 2012 on www.itsdf.org.

<i>Page</i>	<i>Location</i>	<i>Change</i>
4	Table 1, third section	The Min Water Cap lbs/kg for 43.50 lbs / 19.77 kg capacity tanks should all read “103.6 / 47.1” instead of “79.8 / 35.3.”

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).

LIQUID PROPANE GAS (LPG) FUEL CYLINDERS (HORIZONTAL OR VERTICAL) MOUNTING – LIQUID-WITHDRAWAL – FOR POWERED INDUSTRIAL TRUCKS

1 SCOPE

This Standard establishes dimensions for LPG fuel cylinders used on powered industrial trucks.

2 PURPOSE

The purpose of this Standard is to promote the interchangeability of 20#, 33.5#, and 43.5# LP-Gas cylinders used on powered industrial trucks.

3 INTERPRETATION

3.1 Mandatory and Advisory Rules

To carry out the provisions of this Standard, all items are mandatory except those including the word *should*, which are recommendations.

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

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4 DESIGN AND CONSTRUCTION STANDARDS

(a) LP-Gas fuel cylinders shall be constructed of steel or aluminum and shall conform to the appropriate ASME, Department of Transportation (DOT), and Transport Canada (TC) Standards. DOT and TC cylinders shall have a minimum service pressure rating of 240 psi (16 bar).

NOTE: Newly constructed cylinders used in Canada require TC markings. Cylinders manufactured to TC standards contain metric markings. Cylinders used in the United States require DOT markings. Some cylinders are manufactured and dual marked to allow filling and use in both countries (e.g. DOT-4BA240 – TC4BAM16).

(b) LPG fuel cylinders shall be constructed to engage a substantial positioning pin or an equivalent means to provide for intended positioning of the cylinder. (See Fig. 1, G.)

(c) LPG fuel cylinders shall be filled (see Table 1) by weight only or by either weight or volume.

(d) LPG fuel cylinders, which can be filled by either weight or volume, shall have a fixed liquid level gauge.

5 MARKINGS

Cylinders shall be marked in accordance with NFPA 58.

6 DIMENSIONAL DETAIL (See Fig. 1)

(a) Pressure relief device with captive rain cap shall discharge at 45 deg. from horizontal with cylinder in horizontal or vertical position. Relief valve discharge shall be provided with clear passage without impinging on head ring. Relief valve inlet shall contact vapor space of filled cylinder when mounted horizontally or vertically.

(b) Hand hole may be enlarged from point of contact with the cylinder to curl on top side to maintain a 1-in. (25-mm) clearance for liquid service shut-off device extended centerline within window area.

(c) A liquid service shut-off valve shall be installed and it shall have a flow check valve. The valve handle shall be marked “liquid shut-off valve,” with “close” and “open” directions denoted by arrows. Location of this valve shall provide free hand clearance with head ring and