

ANSI/ITSDF B56.11.6-2019

(Revision of ANSI/ITSDF B56.11.6-2013)



EVALUATION OF VISIBILITY FROM POWERED INDUSTRIAL TRUCKS

AN AMERICAN NATIONAL STANDARD

INDUSTRIAL TRUCK STANDARDS DEVELOPMENT FOUNDATION

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CONTENTS

Foreword.....	iii
Committee Roster.....	iv
Summary of Changes	v
B56 Series Introduction	vi
1 Scope.....	1
2 References	1
3 Definitions	1
4 Test Facility.....	2
5 Truck Configuration	3
6 Test Equipment for Direct Visibility.....	3
7 Test Procedure for Direct Visibility	4
8 Test Procedure for Indirect Visibility	6
9 Other Test Methods.....	6
10 Acceptance Criteria	6
11 Test Report.....	7
Figures	
1 Top View of Test Path	2
2 Lighting Equipment for Trucks with Sit-On Operator.....	10
3 Lighting Equipment for Trucks with Stand-On Operator	11
4 Determination of Standing Index Point (STIP)	13
5 Test body	13
6 Test Paths, Sit-On Operator Truck $\leq 10\,000$ kg.....	2
7 Test Paths, Stand-On Operator Truck $\leq 10\,000$ kg.....	10
8 Test Paths, Industrial Variable Reach Truck $\leq 10\,000$ kg	11
9 Seat Position and Test Direction	13
10 Standing Position and Test Direction	13
Tables	
1 Traveling Tests	5
2 Maneuvering Tests	6
3 Summary of Visibility Tests	9

FOREWORD

(This foreword is not part of ANSI/ITSDF B56.11.6-2019)

Work on this Standard, originally designated as MH11.6M, was begun by the MH11 Committee. With the consolidation of the activities of the MH11 and B56 Committees, the MH11 Committee became the B56.11 Subcommittee, under the jurisdiction of the B56 Committee. The B56.11 Subcommittee continued the development of this Standard, redesignated as B56.11.6

After letter ballot approval by the B56.11 Subcommittee and the B56 Committee, and public review, the Standard was approved by the Sponsor. After obtaining such approval, the Standard was submitted to the American National Standards Institute, Inc. (ANSI). ANSI approval to issue the Standard as an American National Standard was granted August 6, 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 by the B56 Standards Committee after references to ASME were changed to ITSDF.

ANSI/ITSDF B56.11.6-2013 was approved by the American National Standards Institute as a reaffirmation on September 26, 2013.

ANSI/ITSDF B56.11.6-2019 was approved as a revision by the American National Standards Institute on August 6, 2019.

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

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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C.F. Merther, *Secretary*

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ANSI/ITSDF B56.11.6-2019

SUMMARY OF CHANGES

Following approval by the ITSDF B56 Committee and after public review, ANSI/ITSDF B56.11.6-2019 was approved as a revision by ANSI on August 6, 2019. The revision consists of the addition of criteria for evaluation of indirect visibility. All changes are indicated by the margin note **(19)**.

POWERED AND NONPOWERED INDUSTRIAL TRUCKS

B56 SERIES INTRODUCTION

GENERAL

This Standard is one of a series that have been formulated with the Industrial Truck Standards 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 Tractors
- 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
- B56.11.8 Safety Standard for Seat Belt (Lap-Type) Anchorage Systems 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).

EVALUATION OF VISIBILITY FROM POWERED INDUSTRIAL TRUCKS

1 SCOPE

This Standard specifies the requirements and test procedures for all-round visibility of self-propelled industrial trucks with a rated capacity up to and including 10 000 kg, (22,000 lb.) and industrial variable reach trucks with a rated capacity up to and including 10 000 kg (22,000 lb.) (as defined below), with a sit-on or stand-on operator, without load, and equipped with fork arms or load platform. This standard does not apply to: low-lift straddle carriers; high-lift straddle carriers; trucks with an elevating operator position, when the operating position is elevated; trucks with a rated capacity greater than 10 000 kg; rough-terrain variable reach trucks; container-handling trucks; or side loaders.

Visibility is evaluated by using an array of lamps, centered at the theoretical eye level of a seated 50th percentile operator. Illuminated and shadow areas are measured on a vertical screen in specific locations around the truck. The light source array simulates the normal range of position of the seated operator's eyes with typical head movement. The light and shadow areas describe what can and cannot be seen by the operator. Traveling mode visibility is evaluated with the screen 4000 mm (157.48 in.) to the front of and to the rear of the truck. Maneuvering mode visibility is evaluated with the screen is positioned 1200 mm (47.24 in.) from the truck to the front, rear, and both sides on specified test paths. Acceptable visibility is based on measurements of dark shadows cast on the screen in each of the test conditions.

2 REFERENCES

ISO 5353:1995, Earth-moving machinery, and tractors and machinery for agriculture and forestry — Seat index point

3 DEFINITIONS

truck, industrial variable reach an industrial truck equipped with longitudinal articulating or telescopic and elevating boom(s) (swiveling horizontally by no more than 5°), not including rough terrain variable reach trucks.

truck profile - the contour which is determined by the largest rectangular width and length parallel to the longitudinal axis of the truck, including the front vertical surface of the fork arms, but not including the blades of the fork arms.

Seat Index Point SIP - the point established by the SIP fixture.

Seat Index Point fixture - the device used to determine the SIP and to locate the light source array for this visibility standard. Also refer to ISO 5353:1995.

Standing Index Point STIP - the perpendicular projection of the mid-axis of the standing operator in the normal operating position, see Fig. 3.

Adjusted Standing Index Point ASTIP - the adjusted STIP located relative to the STIP to simulate body movement of the operator during truck operation.

forward direction of travel/ forward direction - the direction of travel when the load-handling means is leading the travel motion of the truck

NOTE: It is dependent on the type of truck.

maneuvering - motion of an industrial truck at slow speed and for short distances and can include movements such as operation in narrow aisles, when turning, passing objects close by, load pick-up and put-down, approaching and retreating from loads, and other operations not included when traveling.