

ASME A90.1-2015
(Revision of ASME A90.1-2009)

Safety Standard for Belt Manlifts

AN AMERICAN NATIONAL STANDARD



**The American Society of
Mechanical Engineers**

Copyright © 2015 by the American Society of Mechanical Engineers.
No reproduction may be made of this material without written consent of ASME.



ASME A90.1-2015
(Revision of ASME A90.1-2009)

Safety Standard for Belt Manlifts

AN AMERICAN NATIONAL STANDARD



**The American Society of
Mechanical Engineers**

Two Park Avenue • New York, NY • 10016 USA

Copyright © 2015 by the American Society of Mechanical Engineers.
No reproduction may be made of this material without written consent of ASME.



Date of Issuance: February 27, 2015

The next edition of this Standard is scheduled for publication in 2020. This Standard will become effective 1 year after the Date of Issuance. There will be no written interpretations of the requirements of this Standard issued to this edition.

Errata to codes and standards may be posted on the ASME Web site under the Committee Pages to provide corrections to incorrectly published items, or to correct typographical or grammatical errors in codes and standards. Such errata shall be used on the date posted.

The Committee Pages can be found at <http://cstools.asme.org/>. There is an option available to automatically receive an e-mail notification when errata are posted to a particular code or standard. This option can be found on the appropriate Committee Page after selecting “Errata” in the “Publication Information” section.

ASME is the registered trademark of The American Society of Mechanical Engineers.

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.

ASME does not “approve,” “rate,” or “endorse” any item, construction, proprietary device, or activity.

ASME 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 assumes 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.

No part of this document may be reproduced in any form,
in an electronic retrieval system or otherwise,
without the prior written permission of the publisher.

The American Society of Mechanical Engineers
Two Park Avenue, New York, NY 10016-5990

Copyright © 2015 by
THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS
All rights reserved
Printed in U.S.A.



CONTENTS

Foreword	iv
Committee Roster	v
Correspondence With the A90 Committee	vi
Summary of Changes	vii
1 General	1
2 References	1
3 Definitions	1
4 General Requirements	2
5 Mechanical Requirements	11
6 Instruction and Warning Signs	19
7 Operating Rules	20
8 Tests and Inspections	20
Figures	
1 Typical Floor Openings [for 14-in. (355-mm) Belts]	3
2 Guardrail and Wall	4
3 Guardrail or Screened Enclosure	5
4 Example of Maze Entrance to Manlift	6
5 Fixed-Type Underfloor Hoods and Guardrail	8
6 Typical Pit Location Detail (for New Installations)	9
7 Typical Lower Landing Detail	10
8 Head Shaft Dimensions — Top Landing	12
9 Distance Between Handhold and Step	13
10 Typical Butt Splice Detail	15
11 Typical Lap Splice Detail	16
12 Typical Mechanical Splice Detail	17
Tables	
1 Allowable Size for Floor Openings	2
2 Rubber Manufacturers Association Tolerances for Width of Belting	14
3 Belt Breaking Strength	14
4 Minimum Number of Bolts	14
Mandatory Appendices	
I Recommended Training Program for Manlift Passengers	23
II Belt Manlift Inspection Report (Weekly and Monthly)	24



FOREWORD

This is a revision of A90.1, Safety Code for Manlifts, which was originally drawn up and approved in 1949 and reaffirmed in 1956. The original Sectional Committee consisted of 19 members representing manufacturers, users, insurance groups, enforcement officials, and independent specialists.

Work was started in 1966 on a revision of this Standard. Each provision of the original code was carefully evaluated in the light of considerable practical field experience. A draft revision was completed in 1967 and approved by letter ballot in 1968. The USA Standards Institute (now called the American National Standards Institute) approved the revised standard on February 7, 1969.

Prompted by several serious manlift accidents, the Committee, through correspondence in 1970, considered additional changes to the 1969 standard. Subsequently, in 1972, the Committee issued ANSI A90.1a-1972, a supplement to ANSI Standard A90.1-1969.

In 1972, new committee officers were appointed and committee membership was expanded to include new members, many of whom have since made significant contributions to the work of the A90 Standards Committee.

Due to changes in technology and the desire to maximize manlift safety, the Committee set about the task of totally revising the A90.1 Standard. This was accomplished only with a great deal of individual member research and study, coupled with numerous meetings of the entire Committee. After three years of concentrated work, the Committee approved by ballot, in 1976, a completely revised draft of the A90.1 Standard. Subsequently, this draft was approved by the American National Standards Institute for issuance as American National Standard A90.1-1976.

In 1981, the A90 Standards Committee was converted from an American National Standards Committee to an ASME Accredited Organization Committee, operating under procedures developed by ASME and accredited by ANSI. Several new members were added to the Committee in this process. After several years of work, a revision to ANSI A90.1-1976 was approved by the A90 Standards Committee and the sponsor organization, and was designated an American National Standard by the American National Standards Institute on September 10, 1985.

A90.1-2003 was approved by the American National Standards Institute on August 14, 2003. A90.1-2009 was approved by the American National Standards Institute on March 23, 2009. This revision was approved by the American National Standards Institute on January 13, 2015.



ASME A90 COMMITTEE

Safety Standards for Manlifts

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

STANDARDS COMMITTEE OFFICERS

J. E. Anderson, *Chair*
W. E. Phillips, Jr., *Vice Chair*
G. A. Burdeshaw, *Secretary*

STANDARDS COMMITTEE PERSONNEL

J. E. Anderson, American Hoist and Manlift, Inc.
J. Anderson, *Alternate*, American Hoist and Manlift, Inc.
L. Barnes, Barnesco, Inc.
Z. C. Barnes, *Alternate*, Barnesco, Inc.
G. A. Burdeshaw, The American Society of Mechanical Engineers
J. M. Favro, Humphrey Manlift Co., Inc.
W. E. Phillips, Jr., CNA



CORRESPONDENCE WITH THE A90 COMMITTEE

General. ASME Codes and Standards are developed and maintained with the intent to represent the consensus of concerned interests. As such, users of this Standard may interact with the Committee by proposing revisions and attending Committee meetings. Correspondence should be addressed to:

Secretary, A90 Standards Committee
The American Society of Mechanical Engineers
Two Park Avenue
New York, NY 10016
<http://go.asme.org/Inquiry>

Proposed Revisions. Revisions are made periodically to the Standard to incorporate changes that appear necessary or desirable, as demonstrated by the experience gained from the application of the Standard. Approved revisions will be published periodically.

The Committee welcomes proposals for revisions to this Standard. Such proposals should be as specific as possible, citing the paragraph number(s), the proposed wording, and a detailed description of the reasons for the proposal, including any pertinent documentation.

Attending Committee Meetings. The A90 Standards Committee regularly holds meetings and/or telephone conferences that are open to the public. Persons wishing to attend any meeting and/or telephone conference should contact the Secretary of the A90 Standards Committee.



ASME A90.1-2015

SUMMARY OF CHANGES

Following approval by the ASME A90 Committee and ASME, and after public review, ASME A90.1-2015 was approved by the American National Standards Institute on January 13, 2015.

ASME A90.1-2015 incorporates the revisions and editorial changes made since the previously published edition. Revisions are identified by a margin note, **(15)**. Changes made to correct errors, as well as other new editorial changes, are identified by **(ED)**. The following is a summary of the latest revisions and changes:

<i>Page</i>	<i>Location</i>	<i>Change</i>
2	4.1.1	Revised
3	Fig. 1	Revised
9	Fig. 6	Revised
19	5.7.2	Revised
	5.8.1	Revised
20	8.1	Editorially revised
21	8.1.7	Title editorially revised
	8.2.4	Editorially revised
	8.3	Added
	8.4	Added
24	Mandatory Appendix II	Item 13 of the Belt Manlift Inspection Report editorially revised

