

ASME B30.22-2016
(Revision of ASME B30.22-2010)

Articulating Boom Cranes

**Safety Standard for Cableways,
Cranes, Derricks, Hoists, Hooks, Jacks,
and Slings**

AN AMERICAN NATIONAL STANDARD



**The American Society of
Mechanical Engineers**

ASME B30.22-2016
(Revision of ASME B30.22-2010)

Articulating Boom Cranes

**Safety Standard for Cableways,
Cranes, Derricks, Hoists, Hooks, Jacks,
and Slings**

AN AMERICAN NATIONAL STANDARD



**The American Society of
Mechanical Engineers**

Two Park Avenue • New York, NY • 10016 USA

Date of Issuance: June 17, 2016

The next edition of this Standard is scheduled for publication in 2021. This Standard will become effective 1 year after the Date of Issuance.

ASME issues written replies to inquiries concerning interpretations of technical aspects of this Standard. Interpretations are published on the ASME Web site under the Committee Pages at <http://cstools.asme.org/> as they are issued.

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.

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

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 © 2016 by
THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS
All rights reserved
Printed in U.S.A.

CONTENTS

Foreword	v
Committee Roster	vii
B30 Standard Introduction	ix
Summary of Changes	xii
Chapter 22-0	
Scope, Definitions, Personnel Competence, Translations, and References	1
Section 22-0.1 Scope of B30.22	1
Section 22-0.2 Definitions	1
Section 22-0.3 Legend for Figs. 22-0.3-1 Through 22-0.3-4	9
Section 22-0.4 Nomenclature for Articulating Cranes	14
Section 22-0.5 Personnel Competence	14
Section 22-0.6 Translations of Safety-Related Information and Control Designations	14
Section 22-0.7 References	14
Chapter 22-1	
Construction and Characteristics	16
Section 22-1.1 Load Ratings	16
Section 22-1.2 Boom Lift, Boom Telescoping, and Load Hoist Mechanisms	18
Section 22-1.3 Swing Mechanism	19
Section 22-1.4 Crane Transport	19
Section 22-1.5 Ropes and Reeving Accessories	19
Section 22-1.6 Controls	20
Section 22-1.7 Installation	21
Section 22-1.8 Construction	21
Section 22-1.9 Operating Manual	22
Chapter 22-2	
Inspection, Testing, and Maintenance	23
Section 22-2.1 Inspection	23
Section 22-2.2 Testing	24
Section 22-2.3 Maintenance	25
Section 22-2.4 Rope Inspection, Replacement, and Maintenance	26
Chapter 22-3	
Operation	28
Section 22-3.1 Qualifications and Responsibilities	28
Section 22-3.2 Operating Practices	33
Section 22-3.3 Signals	34
Section 22-3.4 Operating Near Electric Power Lines	35
Figures	
22-0.2.1-1 Commercial Truck-Mounted With Ground Control	2
22-0.2.1-2 Commercial Truck-Mounted With Top Seat Control	3
22-0.2.1-3 Commercial Truck-Rear-Mounted With Remote Control	4
22-0.2.1-4 Crawler-Mounted	4
22-0.2.1-5 Stationary Installation	5
22-0.2.1-6 Railcar Installation	5
22-0.2.1-7 Trailer-Mounted	5
22-0.2.1-8 Traveling Base-Mounted on Trailer	6
22-0.2.1-9 Off-Road Vehicle	6
22-0.3-1 Definitions of Specifications for Articulating Cranes	10
22-0.3-2 Hook Approach	13
22-0.3-3 Elevation Below Horizontal	13

22-0.3-4	Elevation Above Horizontal	13
22-0.4-1	Nomenclature for Articulating Cranes	15
22-1.1.3-1	Work Areas	17
22-2.4.2-1	Core Failure in 19 × 7 Rotation-Resistant Rope	27
22-3.3.4-1	Standard Hand Signals	34
22-3.4.1-1	Danger Zone for Cranes and Lifted Loads Operating Near Electrical Transmission Lines	36
Table		
22-3.4.2-1	Required Clearance for Normal Voltage in Operation Near High Voltage Power Lines and Operation in Transit With No Load and Boom or Mast Lowered	38