

ANSI/SAIA A92.2 - 2021

American National Standard for

VEHICLE-MOUNTED
ELEVATING and
ROTATING AERIAL
DEVICES

SAIA SCAFFOLD & ACCESS
INDUSTRY ASSOCIATION

ANSI
American National Standards Institute

Date of Publication: August 15, 2021
Effective Date: August 2022

This Standard was approved by the American National Standards Institute on July 28, 2021

The design and manufacturing requirements of this standard apply to all aerial platforms manufactured on or after the effective date. All other provisions of this standard apply to both new and existing units delivered by sale, lease, rental or for any form of beneficial use on or after the effective date.

The effective date is established by the standards developer and not by the American National Standards Institute.

This standard was developed under procedures accredited as meeting the criteria for American National Standards. The Consensus Committee that approved the standard was balanced to ensure that individuals from competent and concerned interests have had an opportunity to participate. The proposed standard was made available for public review and comment which provides an opportunity for additional public input from industry, academia, regulatory agencies, and the public at large.

The Scaffold & Access Industry Association, Inc. (SAIA) does not “approve,” “rate,” or “endorse” any item, construction, proprietary device or activity.

The Scaffold & Access Industry Association, Inc. (SAIA) 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 ensure anyone utilizing a standard against liability for infringement of any applicable Letters Patent, nor does it assume any such liability. Users of this standard are expressly advised that the determination of the validity of any such patent rights, and the risk of the infringement of such rights, is entirely their own responsibility.

Participation by federal agency representative(s) or person(s) affiliated within the industry is not to be interpreted as government or industry endorsement of this standard.

The Scaffold & Access Industry Association, Inc. (SAIA) accepts responsibility for only those interpretations issued in accordance with governing ANSI Essential Requirements, which preclude the issuance of interpretations by individual volunteers.

ANSI/SAIA
A92.2-2021

AMERICAN NATIONAL STANDARD
for VEHICLE-MOUNTED ELEVATING
and ROTATING AERIAL DEVICES

Secretariat
Scaffold & Access Industry Association, Inc.

Approved July 28, 2021
American National Standards Institute, Inc.

AMERICAN NATIONAL STANDARD

Approval of an American National Standard requires verification by ANSI that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer.

Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered and that a concerted effort be made toward their resolution.

The use of American National Standards is completely voluntary; their existence does not in any respect preclude anyone, whether he has approved the standard or not, from manufacturing, marketing, purchasing, or using products, or procedures not conforming to the standards.

The American National Standards Institute does not develop standards and will in no circumstances give an interpretation of any American National Standard. Moreover, no person shall have the right or authority to issue an interpretation of an American National Standard in the name of the American National Standards Institute. Requests for interpretations should be addressed to the secretariat or sponsor whose name appears on the title page of this standard.

CAUTION NOTICE: This American National Standard may be revised or withdrawn any time. The procedures of the American National Standards Institute require that action be taken to reaffirm, revise, or withdraw this standard no later than five years from the date of approval. Purchasers of American National Standards may receive current information on all standards by calling or writing the American National Standards Institute.

Published by
Scaffold & Access Industry Association, Inc.
400 Admiral Boulevard
Kansas City, MO 64106
www.saiaonline.org

Copyright ©2021 by the Scaffold & Access Industry Association, Inc.
All rights reserved.

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

Printed in the United States of America

FOREWORD

This foreword is not part of American National Standard for vehicle-mounted aerial devices, ANSI/SAIA A92.2-2021.

This standard is one of a series on aerial platforms developed under the committee procedures of the American National Standards Institute. The A92 standards committee was organized by the Institute in 1948. The Scaffold & Access Industry Association, Inc. serves as Secretariat.

The primary objective of this standard is to prevent accidents associated with the use of vehicle-mounted aerial devices by establishing requirements for design, manufacture, installation, maintenance, performance, use and training.

Interpretations and Suggestions for Improvement

All inquiries requesting interpretation of the Committee’s approved American National Standards must be in writing and directed to the Secretariat. The A92 Committee shall approve the interpretation before submission to the inquirer. Only the A92 Committee is authorized to provide any interpretation of this standard.

The A92 Committee solicits comments on and criticism of the requirements of the standards. The standards will be revised when necessary or desirable, as demonstrated by the experience gained from the application of the standards. Proposals for improvement of this standard are welcome. Proposals should be as specific as possible, citing the paragraph number(s), the proposed wording, and a detailed rationale for the proposal, including any pertinent documentation.

All requests for interpretation and all suggestions for improvement shall be forwarded in writing to the ASC A92 Committee, c/o Secretariat ~ Scaffold & Access Industry Association, 400 Admiral Boulevard, Kansas City, MO 64106.

This Standard was processed and approved for submittal to ANSI by Accredited Standards Committee Aerial Platforms, A92 Aerial Work Platforms. The ASC A92 committee’s approval of the standard does not necessarily imply that all committee members voted for its approval. At the time the ASC A92 committee approved this standard, the A92 Aerial Work Platforms Committee had the following members:

Joshua Chard, Ph.D., Chairman
Frank Bonesteel, Vice-Chairman
DeAnna Martin, Secretary

Alimak Group USA, Inc.	Gregory Janda Tony Dragone
Altec Industries Inc.	Bryan Hall Robert Crowder
Altec Neuco	Butch Barron

American Rental Association	Eric Lumberg John McClelland Kevin Gern
Arrowhead Aerial Products, Inc	Sharon McCarty
Arrowhead Product Development, Inc	Gary Werkhoven
Aspen Aerials, Inc.....	Patrick Clark Justin Laskowski
Association of Equipment Manufacturers (AEM).....	Jeff Jurgens
Beta Max Inc.....	Dave Reinert
Blazing Technologies.....	Robert Backer
Bonesteel Construction Company.....	Frank Bonesteel
BrandSafway.....	Don Allen
Brent Hoover LLC	Brent Hoover
Brewington & Company.....	John Brewington
CED Technologies, Inc.....	George Wharton
Century Elevators.....	Paula Manning
CPWR The Center for Construction Research and Training.....	Michael Kassman Gary Gustafson
Diversified Inspections/ ITL.....	Jerry Tanner Ralph Goodwin
Duke Energy Carolina East.....	David Benson Sammy Nifong
Duke Energy Florida.....	Donald Barrows
Dur-A-Lift Inc.....	Douglas Brinkhous
Eckstine and Associates, Inc.....	Dennis Eckstine Matthew Eckstine
Elliott Equipment Company	Alan Calta Matt Gill
Entergy Services, LLC.....	Carey Stallings
EPRO Safety Solutions.....	Albert Eccles
Eric A. Schmidt, P.E.....	Eric Schmidt
Evulich & Associates.....	Barris Evulich
ExxonMobil	Frank Radio
EZ Scaffold.....	James Hinton
Florida Power and Light Company.....	Glenn Martin
Fraco Products Ltd.....	Francois Villeneuve Shanon Beekman
GB MEWP Consulting, LLC.....	Carl Kishline
Genie Industries	Jason Berry Harrison Jenkins
Global Rentals.....	Joshua Chard, Ph.D.
Global Safety & Equipment Inc.....	Geoffrey Arther
H&E Equipment Services, Inc.....	Frankie Wynn
Haulotte Group.....	Kevin Gildea, PE
Heath and Associates	Frederick Heath
Helix Electric	Christopher Hughes

	Eric Simmons
Herc Rentals.....	Bill Cobb
	Michael Hayden Jr.
Hubbell Power Systems, Inc.	Dustin Sullivan
Hugg & Hall Equipment.....	Bob Hendricks
Hy-Brid Lifts/ Custom Equipment.....	Ben Froland
Hydro Mobile Inc.....	Kevin O'Shea
	Sony Trudel
IBEW Local 164	Michael DeGiglio
International Masonry Institute (IMI).....	David Wysocki
IPAF, Ltd.	Tony Groat
	Dan Moss
IREX Contracting Group	Tom Pokornik
IVES Training & Compliance Group Inc.	Robert Vetter
JLG Industries Inc.	Mark Vaughn
	Devin Mellott
KHL Group/Access, Lift & Handlers Magazine	Tony Radke
Klimer Platforms Inc.....	James Gordon
Lee Electrical Construction Inc.	John Cook
	Jason Lee
Lewis Tree Service	Chris Maka
	Samuel Luna
Lift-A-Loft Corporation.....	Doug Jeurissen
McClain & Co., Inc.....	Daniel McClain
MEC Aerial Work Platforms	Gary Crook
	Mark Kroeker
MEWPs Inc.....	Richard Staples
	Scott Loura
ML Cranes & Equipment.....	Mickey Hodges
Moog USA Inc.....	Martin Schweizer
	Cindy Watson
Niftylift Inc.	Steven Redding
	James Clare
OEM Controls, Inc.....	Paul Rohaly
	Robert Wuertz
Palfinger North America, LLC	Bobby Taylor
	Will Urban
Phenix Technologies.....	Mark Miller
Pike Electric, LLC	Andy Cleary
	Kevin Watson
Piranha Safety	Eric Moran
	Homer Kyle
Power Equipment Leasing Co, Inc	Tracy Schroeder
ReechCraft Inc.	Jason Solhjem
	Shane Nickel
Reynolds Engineering Services Inc.	Stephen Reynolds

RLH Consulting LLC	Richard Hoffelmeyer
Salt River Project (SRP)	Brendan King Jason Kleiber
Scaffold Resource, LLC.....	Brett Friedel
SEA, LTD	Brian Boggess
Skanska USA Building	Spencer Hasenkopf
Skyjack Inc.....	Ian McGregor
Snorkel International LLC	Jeff Eckhardt, P.E. Tony Deatherage
Southern California Edison.....	Randy Stone
Southern Company - Alabama Power Company	Herman Scott Jenny Taylor
Sunbelt Rentals	Brian Clark
Sunstate Equipment Co.....	Jake Kidd
Superior Scaffold Services Inc.....	Shawn MacDonald
Technology International Co.	Michael Zhou
Terex South Dakota, Inc.	Jim Olson Dan Brenden
Terex Utilities, Inc.	Nick Cammisa David Sexton
TESCO Equipment LLC.....	Alan Wagamon
THD Rental	Donald Satterfield
The Boeing Company	Donald Dorfman
The Townsend Corporation	Mark Kimbrough
The VON Corporation	Fred von Herrmann Martin von Herrmann
Time Manufacturing Company.....	James Christian Brian Davis
TNT Equipment Co.....	Michael Solomon
Tower Safety & Instruction	Kathy Gill
TrainMOR / Morrison Industrial Equipment.....	Scott Ahner
Tutus LLC.....	Forrest Hester Kevin Jones
United Rentals.....	Teresa Kee Lee Braden
Utility Truck Equipment & Parts LLC	John Mlaker
Vollmer-Gray Engineering	Paul Guthorn
Waco Boom Company Ltd	Jonathan Woods Bob Simon
Wiss, Janney, Elstner Associates Inc.....	Jason Kamman
Xtreme Manufacturing.....	Jake Adkins Jonathan Rasa
Zachry Group	Daniel Davis

Subcommittee A92.2 on Vehicle-Mounted Elevating and Rotating Aerial Devices, which developed this standard, had the following members:

Joshua Chard, Ph.D., Chairman

Donald Allison, Ph.D., P.E.

Ted Barron

Donald Barrows

David Benson

Robert Borer

John Brewington

Randall Breyer

Douglas Brinkhous

Alan Calta

James Christian

Andy Cleary

John Cook

Alain Courchesne

Brian Davis

Michael DeGiglio

Albert Eccles

Matthew Eckstine

Bryan Hall

Mickey Hodges

Richard Hoffelmeyer

Robert Hofmiller

Christopher Hughes

Jake Kidd

Brendan King

Eric Lumberg

Sam Luna

Chris Maka

Glenn Martin

Sharon McCarty

Mark Miller

Robert Miller

John Mlaker

Jim Olson

Justin Pilgrim

Stephen Reynolds

Tracy Schroeder

Herman Scott

Bob Simon

Doug Simpson

Matthew Skarshaug

Michael Stiles

Randy Stone

Dustin Sullivan

Jerry Tanner

Bobby Taylor

Jenny Taylor

Fred von Herrmann

Gary Werkhoven

Jonathan Woods

1. Scope, Purpose, Requirements, and Application	1
1.1 Scope	1
1.1.1 Equipment Covered.....	1
1.1.2 Equipment Not Covered.....	1
1.2 Purpose	1
1.3 Requirements.....	1
1.4 Application.....	1
2. Referenced and Related Standards	2
2.1 Referenced Standards	2
2.2 Related Standards	2
3. Definitions	4
4. Design Requirements	6
4.1 Basic Principles.....	6
4.2 Structural Analysis	7
4.3 Controls.....	7
4.3.1 General.....	7
4.3.1.1 Visibility at Control Positions.....	7
4.3.1.2 Unlocking or Enabling Device.....	7
4.3.2 Upper Controls	8
4.3.3 Lower Controls.....	8
4.3.4 Ground Travel Controls.....	8
4.3.5 Emergency Stop.....	8
4.3.6 Stabilizer Controls.....	8
4.3.7 Winch Control	8
4.3.8 Platform Level Adjustment	8
4.3.9 Automatic or Programmed Operation	8
4.3.10 Hydraulic Isolation/Selector Device	9
4.4 Securing Devices.....	9
4.4.1 Ladder Securing Device	9
4.4.2 Boom Securing Device.....	9
4.4.3 Platform Security.....	9
4.4.4 Locking Pins.....	9
4.5 Stability.....	9
4.5.1 Stability on Level Surfaces.....	9
4.5.2 Stability on Slopes.....	9
4.5.3 Effects of Stability Test.....	10
4.5.4 Slope Indicator	10
4.5.5 Stabilizer Interlock Device.....	10
4.5.6 Oscillating Axle Interlock Device.....	10
4.5.7 Manually Operated Stabilizers.....	10
4.5.8 Parking Brake Interlock.....	10
4.6 Hydraulic System	11
4.6.1 Bursting Safety Factors	11
4.6.2 Venting of Air	11
4.6.3 Reservoir Vent Filter	11
4.6.4 Fluid Level Indicators	11
4.6.5 Fluid Cleanliness	11
4.6.6 Gas-loaded Accumulators	11

4.6.7 Pressure Limiting Devices	11
4.7 Hydraulic Cylinders	11
4.7.1 Safety Factors.....	11
4.7.2 Column Load.....	11
4.7.3 External Load.....	11
4.7.4 Threaded Components.....	12
4.7.5 Hydraulic Pressure Rise.....	12
4.8 Platform or Load Motion.....	12
4.8.1 System Protection.....	12
4.8.2 Platform Creep.....	12
4.9 Platforms.....	12
4.9.1 Guardrail System.....	12
4.9.2 Ladder Type	12
4.9.3 Folding Type Floors.....	12
4.9.4 Anchorage(s) for Personal Fall Protection	13
4.9.4.1 Location.....	13
4.9.4.2 Markings.....	13
4.9.4.3 Strength Requirement.....	13
4.9.4.4 Connector Requirement.....	13
4.9.4.5 Surface.....	13
4.9.5 Buckets or Baskets	13
4.9.5.1 Non-insulating buckets or baskets designed for use with insulating liners.....	13
4.9.5.2 Non-insulating buckets or baskets designed for use without liners	13
4.9.5.3 Insulating baskets or buckets.....	13
4.9.5.4 Dimensions.....	13
4.10 Covers.....	13
4.10.1 Aerial devices intended for gloving work methods	14
4.10.2 Cover Requirements	14
4.11 Material Handling Rope	14
4.12 Markings.....	14
4.12.1 Type of Markings:.....	14
4.12.2 Design of Markings.....	14
5. Electrical Systems, Devices and Test Procedures	14
5.1 Electrical Specifications.....	14
5.1.1 Insulation.....	14
5.1.2 Insulating Aerial Device Categories	14
5.2 Electrical Requirements	15
5.2.1 Insulating Systems.....	15
5.2.1.1 Insulating Hydraulic Hoses.....	15
5.2.2 Partial Vacuum Limiting Systems.....	15
5.2.3 Lower Test Electrode System for Insulating Aerial Devices	15
5.2.3.1 Conductive Bands	16
5.2.3.2 Conductive Connections.....	16
5.2.3.3 Electrical Monitoring Circuit.....	16
5.2.4 Gradient Control Devices & Conductive Shield(s).....	16
5.2.4.1 Gradient Control Devices.....	16
5.2.4.2 Conductive Shield(s).....	16
5.2.5 Chassis Insulating System.....	16
5.2.6 Upper Controls	17

5.3	Electrical Tests for Insulating Aerial Devices.....	17
5.3.1	Design Voltage Test.....	17
5.3.2	Qualification Test.....	17
5.3.3	Periodic Electrical Test.....	17
5.3.4	Before Use Test.....	17
5.4	Electrical Test Procedures.....	17
5.4.1	General.....	18
5.4.2	Design and Qualification Test Procedures.....	18
5.4.2.1	Test Procedures for Category A & B Aerial Devices.....	18
5.4.2.2	Test Procedures for Category C, D and E Aerial Devices.....	18
5.4.2.3	Test Procedures for Aerial Ladders and Vertical Towers, with Insulating Boom Sections.....	18
5.4.2.4	Test Procedures for Chassis Insulating Systems.....	19
5.4.2.5	Test Procedures for Insulating Liners.....	19
5.4.2.6	Confirmation Test of Upper Control Components with High Electrical Resistance..	19
5.4.2.7	Test Procedures for Extensible Boom Aerial Devices with Permanent Electrodes...	19
5.4.3	Periodic/Maintenance Test Procedures.....	19
5.4.3.1	Test Procedures for Category A and B Insulating Aerial Devices.....	19
5.4.3.2	Test Procedures for Category C, D and E Aerial Devices.....	20
5.4.3.3	Test Procedures for Aerial Ladders and Vertical Towers with Insulating Boom Sections.....	21
5.4.3.4	Test Procedures for Chassis Insulating Systems.....	21
5.4.3.5	Test Procedures for Insulating Liners.....	21
5.4.3.6	Test of Upper Control Components with High Electrical Resistance.....	21
5.4.3.7	Test Procedures for Extensible Boom Aerial Devices without Permanent Electrodes or with Electrodes and Tested as a Category C Device.....	22
5.5	Electrical Test Equipment.....	22
5.6	Electrical Certification.....	22
5.6.1	Qualification Test.....	22
5.6.2	Periodic Electrical Test.....	22
5.6.3	Test Documentation.....	22
6.	Responsibilities of Manufacturers.....	22
6.1	General Responsibilities.....	22
6.2	Specifications.....	22
6.2.1	Vehicle Specifications.....	22
6.2.2	Aerial Device Specifications.....	23
6.2.2.1	General.....	23
6.2.2.2	Capacity.....	23
6.2.2.3	Multiple Configurations.....	23
6.2.2.4	Design Voltage.....	23
6.2.2.5	Qualification Voltage.....	23
6.3	Quality Assurance.....	24
6.4	Manuals.....	24
6.5	Markings.....	24
6.5.1	Application of Markings.....	24
6.5.2	Identification Markings.....	24
6.5.3	Operational Markings.....	25

6.5.4 Instructional Markings	25
6.6 Mechanical Tests and Inspection.	25
6.6.1 Operational Tests.....	25
6.6.2 Visual Inspection.....	26
6.7 Electrical Tests	26
6.8 Installation Instructions	26
6.9 Welding.	26
6.10 Training and Training Materials	26
7. Responsibilities of Dealers and Installers	26
7.1 General Responsibilities.....	26
7.2 Vehicle Specifications.....	26
7.3 Vehicle Weight Distribution	26
7.4 Sale or Transfer of Equipment	26
7.4.1 Manuals	26
7.4.2 Transfer of Ownership	26
7.4.3 Notification of Owner/User Responsibilities	26
7.5 Installations.	27
7.5.1 Locking Pins.....	27
7.5.2 Unauthorized Use.....	27
7.6 Ingress/Egress.....	27
7.6.1 Steps/Ladders.	27
7.6.2 Access Opening/Passage.....	27
7.6.3 Three Point Support.	27
7.7 Quality Assurance.	27
7.8 Weldings	27
7.9 Training.	28
7.9.1 Dealer, Installer or Service Entity as User.	28
7.10 Maintenance Training.	28
7.11 Service and Inspection Records	28
7.11.1 Service and Inspection Documentation.....	28
7.11.2 Periodic Inspection and Test Placard	28
7.11.3 Periodic Mandatory Component Replacement	28
8. Responsibilities of Owners.....	28
8.1 General Responsibilities.....	28
8.2 Inspection and Testing Classifications.....	28
8.2.1 Initial Inspection and Test.	28
8.2.2 Regular Inspection and Tests	22
8.2.3 Frequent Inspection and Test:	28
8.2.4 Periodic Inspection or Test.....	29
8.2.5 Major Structural Inspection.....	30
8.2.6 Post Event Inspection or Test.....	30
8.3 Inspection and Test Records	31
8.3.1 Frequent.....	31
8.3.2 Periodic.....	31
8.4 Maintenance.	31
8.4.1 Maintenance Training.	31
8.4.2 Welds.....	31
8.5 Modifications.	31
8.5.1 Alterations.	31

8.5.2 Overriding Safety Devices.....	31
8.6 Weight Distribution.....	32
8.7 Transfer of Ownership.....	32
8.8 Markings.....	32
8.9 Parts.....	32
8.10 Safety Bulletins.....	32
8.11 Manuals.....	32
8.12 Training, Retraining, and Familiarization of Operators.....	32
8.12.1 General Training.....	32
8.12.2 Retraining.....	33
8.12.3 Familiarization.....	33
8.13 Owner as a Lessor.....	33
9. Responsibilities of Users.....	33
9.1 General Responsibilities.....	33
9.2 Personnel.....	33
9.3 Training, Retraining, and Familiarization of Operators.....	33
9.3.1 General Training:.....	33
9.3.2 Retraining.....	34
9.3.3 Familiarization.....	34
9.3.4 Proof of Training.....	34
9.3.5 Record Keeping.....	34
9.4 Application.....	35
9.5 Electrical Hazards.....	35
9.6 Bare-Hand Work.....	35
9.7 Lower Controls.....	35
9.8 Manufacturer’s Safety Bulletins.....	35
10. Responsibilities of Operators.....	35
10.1 General Responsibilities.....	35
10.2 Personnel.....	35
10.3 Operation.....	35
10.4 Work Platform.....	35
10.5 Brakes.....	36
10.6 Loading.....	36
10.6.1 Vacating or Entering an Elevated Aerial Device.....	36
10.6.2 Carrying Materials Larger than the Platform.....	36
10.7 Alterations.....	36
10.7.1 Overriding Safety Devices.....	36
10.8 Observations.....	36
10.8.1 Pre-start Inspection.....	36
10.8.2 Transporting.....	37
10.9 Worksite.....	37
10.10 Precautions.....	37
10.11 Mobile Operation.....	37
10.11.1 Driver Precautions.....	37
10.12 Training, Retraining, and Familiarization of Operators.....	38
10.12.1 General Training.....	38
10.12.2 Retraining.....	38
10.12.3 Familiarization.....	38
10.13 Electrical Hazard.....	39

11. Responsibilities of Lessors or Lessees	39
11.1 General Responsibilities.....	39
11.1.1 Lessor or Lessee as Dealer or Installer.....	39
11.1.2 Lessor or Lessee as Owner.....	39
11.1.3 Lessor or Lessee as User.....	39
11.1.4 Lessor or Lessee as Operator.....	39
11.2 Ownership Responsibilities.....	39
11.3 Obligations.....	39
11.3.1 Inspection and Test.....	39
11.3.2 Responsibilities	39
11.4 Training.....	39
11.4.1 General Training	39
11.4.2. Retraining.....	40
11.4.3 Familiarization	40
11.5 Communications.....	40
11.6 Use of Brokers.....	41
12. Responsibilities of Brokers	41
12.1 Broker Involved In a Sale.....	41
12.2 Broker Involved In a Lease	41

TABLES

Table 1: Design, Quality Assurance and Qualification Test Values.....	42
Table 2: Periodic Electrical Test Values	45
Table 3: Before Use Tests	46

FIGURES

Figure 1: Dielectric Test Configuration for Category A & B Aerial Devices	47
Figure 1A: Details of Lower Test Electrode Assembly & Conductive Shield	48
Figure 2: Dielectric Test Configuration for Category C & DAerial Devices	49
Figure 2A: Optional Dielectric Test Configuration for Category C & DAerial Devices.....	50
Figure 3: Dielectric Test Configuration for Chassis Insulating Systems	51
Figure 3A: Suggested Shunting Arrangement for Chassis Insulating System.....	52
Figure 4: Boom Positions for Dielectric Test of Extensible Insulating Aerial Devices	53
Figure 5: Typical Bonding Arrangements for Category A Aerial Devices.....	54
Figure 6: Confirmation Test of Upper Control Components w/High Electrical Resistance.....	55
Figure 7: Recommended Identification Plate Format	56

APPENDICES

Appendix A: Electrical Test Terminology and Clarification.....	57
Appendix B: DC Application.....	57
Appendix C: Application and Uses of Aerial Devices.....	58
Appendix D: Electrical Tests for Aerial Devices, Insulated Platforms and Insulated Ladders for AC Application	58
Appendix E: Electrical Tests for Aerial Devices Built in Compliance to Earlier Editions of this Standard.	59
Appendix F: Precautions for Use of Aerial Devices on or near Energized Apparatus	60
Appendix G: Recommended Identification & Instruction Symbols for Control Function	64
Appendix H: Example Lower Test Electrode System Continuity Check Guide	70

1. Scope, Purpose, Requirements, and Application

1.1 Scope.

1.1.1 Equipment Covered. This standard relates to the following types of vehicle-mounted aerial devices:

- (1) Extensible boom
- (2) Aerial ladders.
- (3) Articulating boom
- (4) Vertical towers.
- (5) A combination of any of the above. The vehicle may be a truck, a trailer, or an all-terrain vehicle.

1.1.2 Equipment Not Covered. This standard does not apply to the equipment listed below:

- (1) Equipment such as that covered in ANSI/SAIA A92.20-2020 Design, Calculations, Safety Requirements and Test Methods for Mobile Elevating Work Platforms (MEWPs).
- (2) Vehicle-mounted vertical lift devices such as those covered in American National Standard for Airline Ground Support Vehicle-Mounted Vertical Lift Devices, ANSI/SAIA A92.7-2014.
- (3) Mast Climbing Work Platforms such as those covered in ANSI/SAIA A92.9-2011.
- (4) Transport Platform such as those covered in ANSI/SAIA A92.10-2009 (R2014).
- (5) Equipment such as that covered in ANSI/ASME A120.1- 2014 Safety Requirements for Powered Platforms for Building Maintenance.
- (6) Vertically adjustable equipment used primarily to raise and lower materials and equipment from one elevation to another such as that covered in American National Standards in the A17 and B56 series.
- (7) Fire-fighting equipment such as that covered in American National Standard for Automotive Fire Apparatus, ANSI/NFPA 1901-2016.
- (8) Scaffolding such as that covered in American National Standard for Construction and Demolition Operations-Scaffolding Safety-Requirements ANSI/ASSP A10.8-2019.
- (9) Construction and demolition operation digger derricks such as those covered in American National Standard for Construction and Demolition Operations - Safety Requirements, Definitions, and Specifications for Digger Derricks, ANSI/ASSP A10.31-2019.
- (10) Personnel carrying attachments or personnel platforms attached to or suspended from cranes built to the ANSI/ASME B30 Standards. These excluded items are referred to in ANSI/ASME B30.23, which provides guidance for the use of such apparatus on cranes.
- (11) Cranes; products primarily designed with a hoist to raise, lower and horizontally move a suspended load. Such equipment includes but is not limited to products designed to ASME B30 standards.

1.2 Purpose. This standard applies to the establishment of criteria for design, manufacture, testing, inspection, installation, maintenance, use, training, and operation of vehicle-mounted aerial devices, primarily used to position personnel, installed on a chassis to achieve the following objectives:

- (1) Prevention of personal injuries and accidents.
- (2) Uniformity in ratings.
- (3) Understanding by manufacturers, dealers, brokers, installers, lessees, lessors, maintenance personnel, operators, owners, and users of their respective responsibilities.

1.3 Requirements. The requirements of this standard shall be met or exceeded.