Changes to ANSI A92 and CSA B354 Standards –

What You Need to Know

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A TEREX BRAND

Aerial Work Platform Categories

Current Standards

- ANSI
(American National Standards Institute)

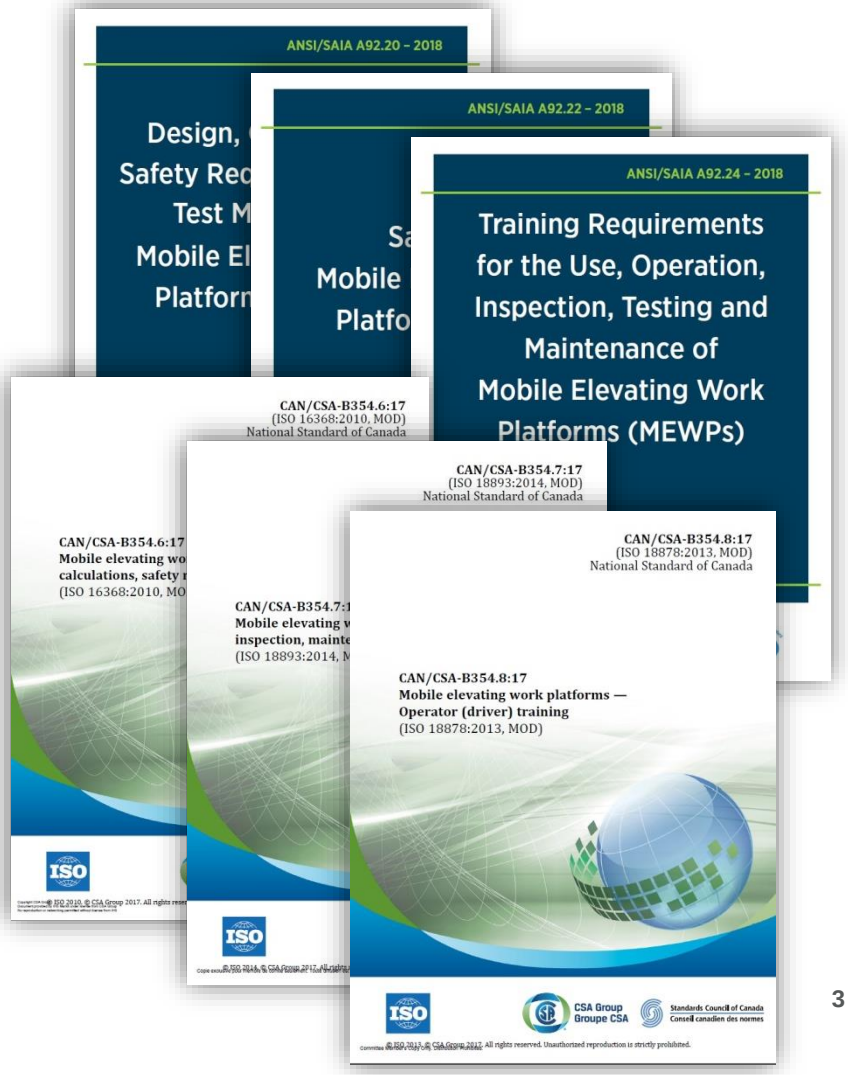
ANSI A92

- CSA
(Canadian Standards Association)

CSA B354

- SAIA
(Scaffold and Access Industry Association)

ANSI Standards are Voluntary



OSHA General Duty Clause

UNITED STATES DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION

OSHA often adopts ANSI standards via "incorporation by reference". When these standards are adopted or incorporated, they become part of the OSHA regulation and therefore compliance is mandatory.

OSHA General Duty Clause

UNITED STATES DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION

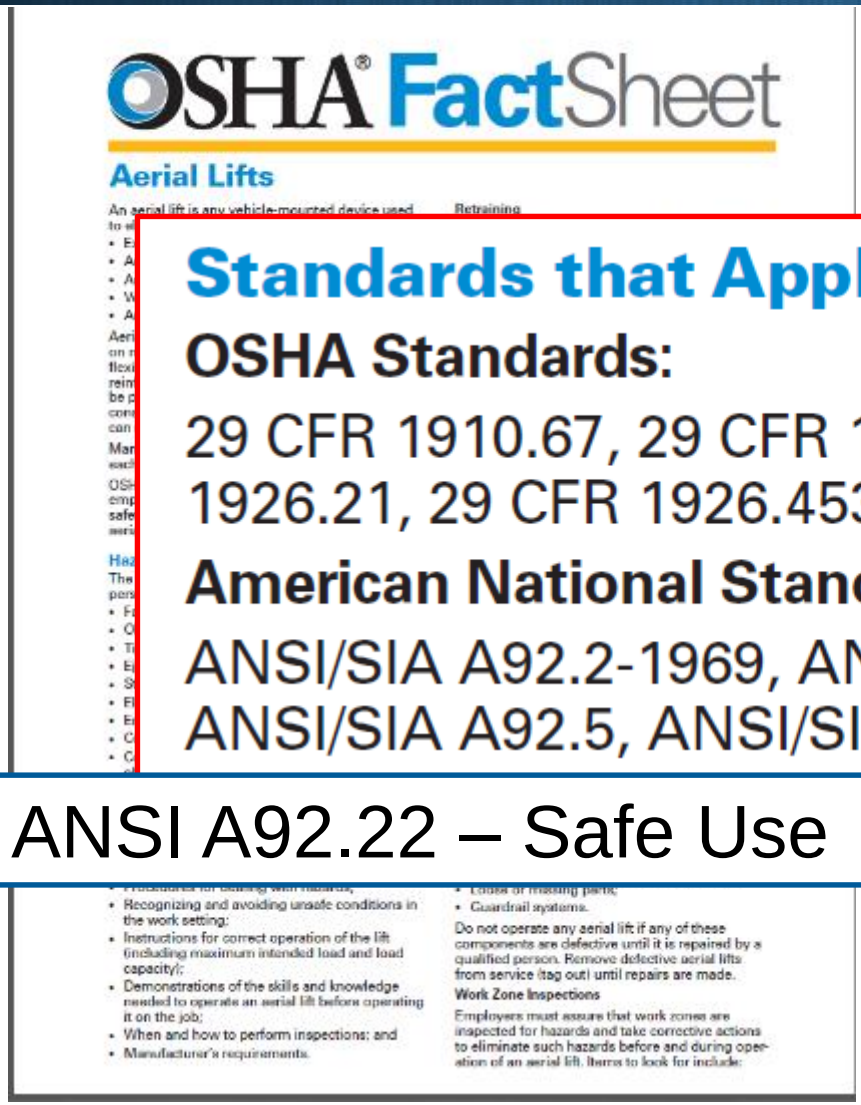
In 1974, OSHA adopted many of the ANSI standards in order to promote safety rules. In this particular time frame, there was only one aerial lift standard, A92.2-1969 for vehicle-mounted elevating and rotating work platforms.

OSHA General Duty Clause

UNITED STATES DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION

ANSI has since created other standards for other types of aerial lifts and OSHA observes these consensus standards. OSHA also has recognized using these updated consensus standards through interpretive letters regarding compliance.

OSHA Aerial Platform Fact Sheet


OSHA FactSheet

Aerial Lifts

Standards that Apply

OSHA Standards:

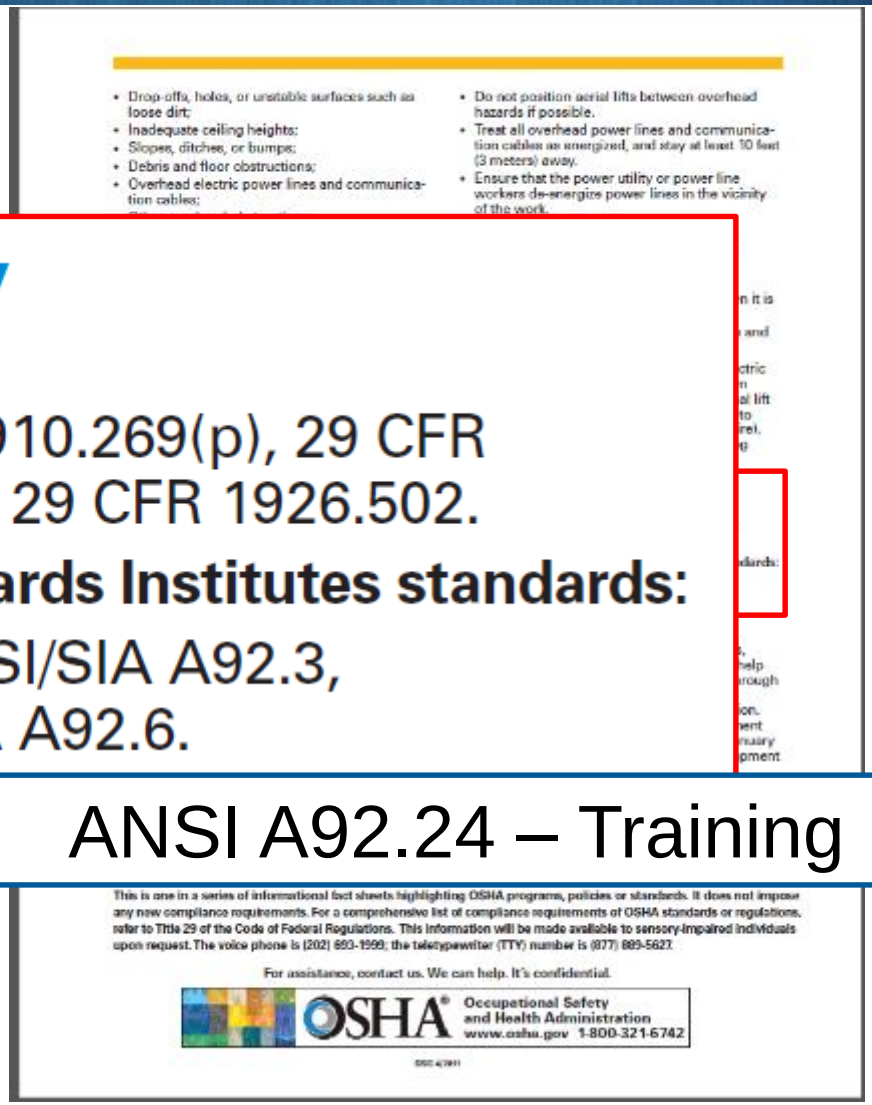
29 CFR 1910.67, 29 CFR 1910.269(p), 29 CFR 1926.21, 29 CFR 1926.453, 29 CFR 1926.502.

American National Standards Institutes standards:

ANSI/SIA A92.2-1969, ANSI/SIA A92.3, ANSI/SIA A92.5, ANSI/SIA A92.6.

ANSI A92.22 – Safe Use

ANSI A92.24 – Training



OSHA General Duty Clause

UNITED STATES DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION

Not following the ANSI standards would be considered **a violation of OSHA's "General Duty" clause**, which requires employers to keep the workplace "free from recognized hazards".

2016 OSHA Fine Increases

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OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION

Violation Type	Old Maximum Penalty	New Maximum Penalty
Serious Violations	$7,000 per violation	$12,471 per violation
Other-Than-Serious Violation	$7,000 per violation	$12,471 per violation
Posting Requirements Violations	$7,000 per violation	$12,471 per violation
Failure to Abate	$7,000 per day beyond the abatement date	$12,471 per day beyond the abatement date
Willful Violation	$70,000 per violation	$124,709 per violation
Repeated Violation	$70,000 per violation	$124,709 per violation

These adjustments became effective on August 1st, 2016

+78%

OSHA Fine Increases

UNITED STATES DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION

2017 –

- $12,675 per violation for serious, other-than-serious and posting requirements violations.
- $12,675 per day beyond the abatement date for failure to abate.
- $126,749 per violation for a willful or repeated violation.

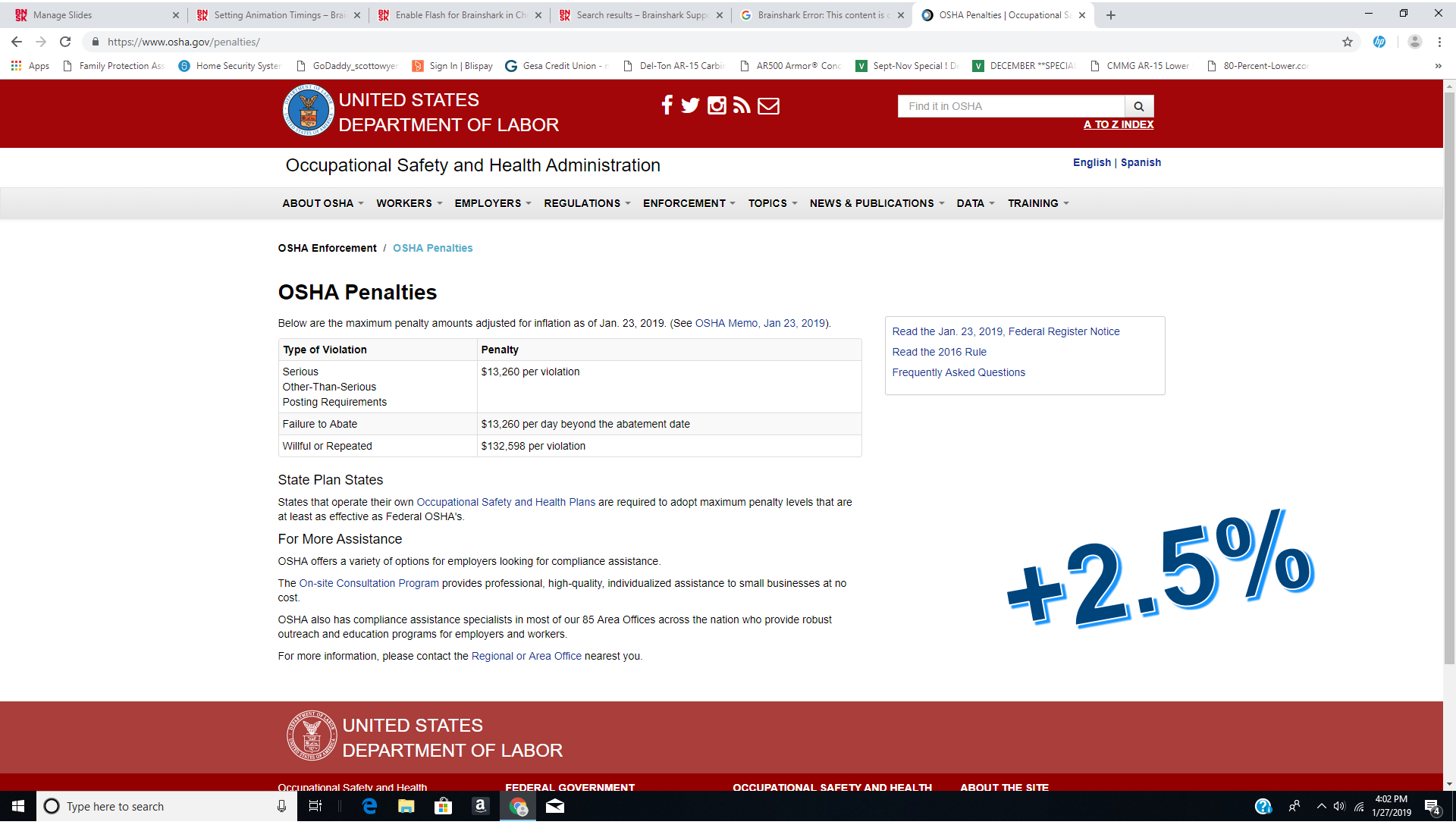
+1.6%

2018 (as of January 2nd) –

- $12,934 per violation for serious, other-than-serious and posting requirements violations.
- $12,934 per day beyond the abatement date for failure to abate.
- $129,336 per violation for a willful or repeated violation

+2%

2019 OSHA Fine Increases



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A92 Standards are Changing

What You Need to Know

What Is Changing?

Just about everything!




Why Are They Changing?

- U.S.A. and Canada have had their own standards ~ ROW
- The new standards will be based on current ISO standards
- Allows North American aerial equipment manufacturers, including Genie, to be in closer alignment with global markets like Europe, Australia and China
- Enable customers to more easily trade new and used equipment in many countries.
- Increase Industry Safety

When Are They Changing?

The updated CSA B354 Standards were published in May of 2017 and the new ANSI A92 Standards were finalized and published on December 20th, 2018

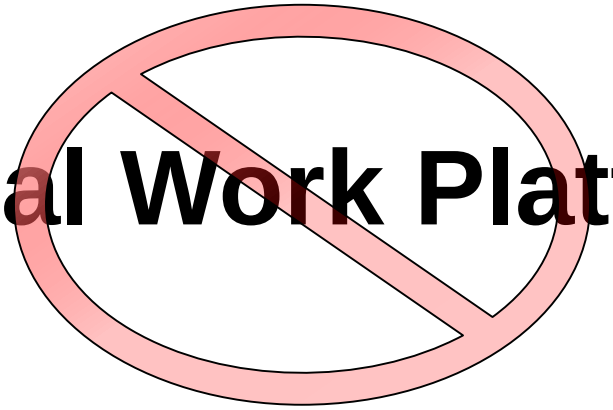
Now that the standards are approved, all aerial equipment brands and manufacturers serving North American customers, and all dealers, owners, users, operators and supervisors will have one year to comply.

NOTE: The compliance deadline was moved back until June 1, 2020.

Pending Changes

- Equipment Terminology
- Equipment Design Standards
- Safe Use and Planning
- Risk Assessment Planning
- Training
- Repair and Maintenance

Equipment Terminology



Aerial Work Platforms

Equipment Terminology

Mobile **E**levating **W**ork **P**latforms

MEWP

Mobile **E**levating **W**ork **P**latforms

MEWP

MEWP classifications are made up of a combination of two key distinguishing descriptions:

a) a MEWP ***Group***

b) an associated MEWP ***Type***

MEWP Groups

A **MEWP Group** is determined by where the platform location is in reference to the tipping line

Group A

Group B

MEWP Types

A **MEWP Type** is in reference to traveling –

Type 1 – Traveling is allowed only with the MEWP in its stowed position

Type 2 - Traveling with the work platform in the elevated position is controlled from a point on the chassis

Type 3 – Traveling with the work platform in the elevated travel position is controlled from a point on the work platform

MEWP Types

A **MEWP Type** is in reference to traveling –

Type 1 – Traveling is allowed only with the MEWP in its stowed position

Type 3 – Traveling with the work platform in the elevated travel position is controlled from a point on the work platform

Terminology Examples

Type 1 – Traveling is allowed only with the MEWP in its stowed position

Type 1, Group A (1A)

Type 1, Group B (1B)

Terminology Examples

Type 3 – Traveling with the work platform in the elevated travel position is controlled from a point on the work platform

Type 3, Group A (3A)

Type 3, Group B (3B)

Terminology Examples

1A

1B

3A

3B

Equipment Design Standards

Platform Load Sense (aka Overload System or Load Sense System)

- Most MEWPs will be required to continuously check the weight in the platform and disable certain functions if the load is above the platform load limit

Genie® XC™ Extra Capacity Boom Family

- Increased platform capacity to 660 lbs. unrestricted range of motion and 1,000 lbs. restricted range of motion

- Automatic Envelope Control

- Up to three person capacity

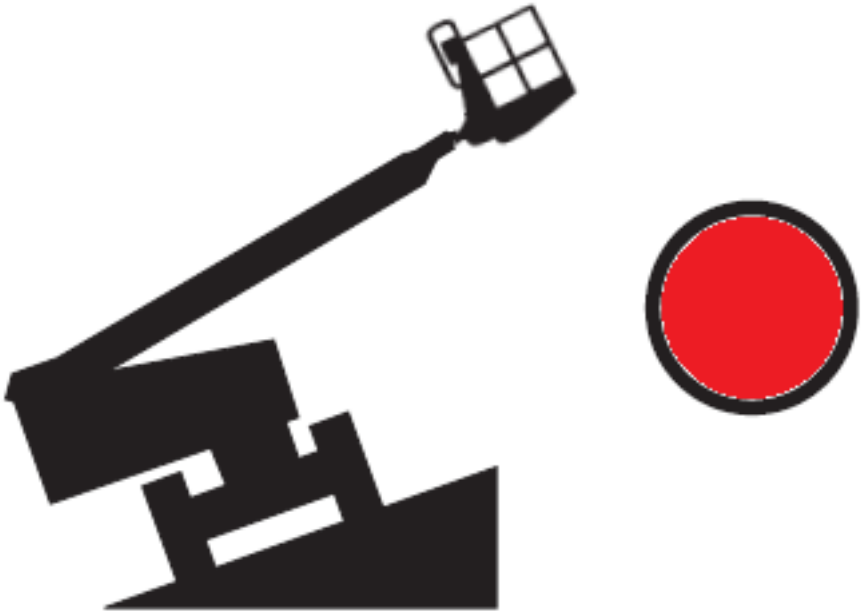
- S-60XC, S-65XC, S-80XC, S85XC, SX-105XC, SX-125XC & SX-135XC Available Now

- Others to be released throughout the year

Equipment Design Standards

Dynamic Terrain Sensing

- Drive and certain boom functions must be disabled when the machine is moved beyond its slope limit and functions restricted only to those that safely return the machine to terrain that is within limits

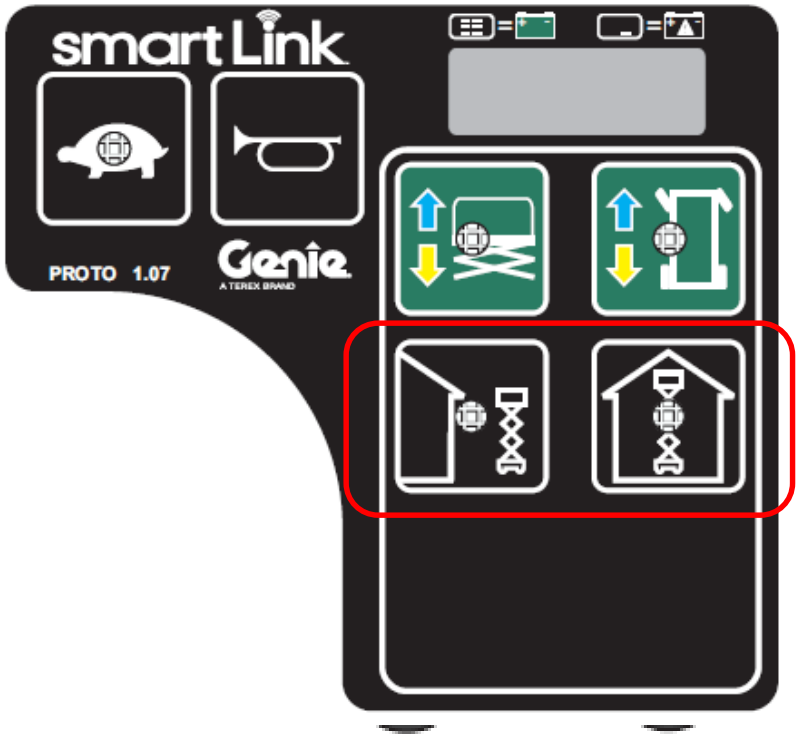


Equipment Design Standards

Indoor Only (No Wind) Machines

- Allows for the development of smaller, lighter-weight MEWPs bearing an “indoor only” rating; such MEWPs can not be used in conditions where they might be subjected to any wind.

- These machines may have the potential to:
  - Be lighter than outdoor machines
  - Have higher platform heights
  - Be narrower
  - Create issues if not managed



Genie Solution

Equipment Design Standards

Toe Guards

- Toe Guards will be required on all work platform entrances.

Swing Gates

- Chain gates and other flexible gates will no longer be allowed

Higher Guard Rails

- Some Scissor Lifts (15’-19’ Models) will be 2-4” higher

Raise and Lower Speeds

- Raise and lower speeds will be reduced on some models

ANSI & CSA Standards

Manufacturer

- Dealer
  - Owner
    - **User (Employer)**
      - Operator

ANSI
American National Standards Institute

Safe Use and Planning

The **User** must develop a Safe Use Program specific to MEWPS which must include, but not be limited to:

- ✓ Performing a site risk assessment;
- ✓ Selection, provision and use of a suitable MEWP and associated equipment;
- ✓ An assessment that the support surface is adequate to support the weight of the MEWP;
- ✓ MEWP maintenance including inspections and repairs as required;
- ✓ Inform the operator of local site requirements and warn and provide the means to protect against identified hazards;
- ✓ Have a **trained** and **qualified supervisor** to monitor the performance or the work of the operator;
- ✓ Prevention of unauthorized use of the MEWP;
- ✓ Safety of persons not involved in the operation of the MEWP.

Risk Assessment

The risks associated with the task specific to MEWP operations shall be identified.

These might be associated with the location where the work is to be carried out, the nature of the MEWP or the personnel, materials and equipment to be carried.

a) Identify control measures;

b) Identify safe work procedures;

c) Rescue from height;

d) Communicate the results.

Risk Assessment

MOBILE ELEVATING WORK PLATFORMS WORKPLACE RISK ASSESSMENT

Risk assessments are a critical element of jobsite and worker safety. The risks associated with the task specific to Mobile Elevating Work Platform operations must be identified before the work begins.

These might be associated with the location where the work is to be carried out, the nature of the MEWP or the personnel, materials and equipment to be carried.

This involves visiting the location where the work is to be performed, preferably with site personnel or their representatives who can identify the hazards associated with the area and the ground on which the MEWP will be required to operate.

Once the hazards and risks involved in the task have been identified, the procedures and measures required to eliminate or mitigate them must be identified and implemented.

The risk assessment results are used to plan safe work procedures, including any contingencies required, in carrying out the identified tasks.

Rescue planning is a necessary component of a risk assessment when working at height. There are situations that require prior planning to ensure a safe and timely rescue. For more information, please refer to the Genie Rescue Plan Overview document.

The user, which is most commonly the employer, is responsible for communicating the results of the risk assessment to everyone involved in the operation.

Before a job starts and periodically throughout a long-term job, the risk assessment must be reviewed to determine if any components of the tasks or the work environment have changed and the effect that it could have on the safety of the operation. If any modifications to the risk assessment are required, these must be communicated to everyone involved prior to resuming the job.

Partial Sample of a Risk Assessment:

Company Name: Genie, a Terex Brand Date: 02/10/2019

Jobsite Location: 6464 185th Ave, Redmond WA 98052

Primary Risk Assessor(s) Scott Owyen

Does this risk assessment replace a previous assessment? [X] No [ ] Yes If yes, date of previous assessment: _____

HAZARD	RISK	CONTROL MEASURE
Periods of high wind in the work area	Tip-Over	- Use an anemometer to determine wind speed. - Do not operate the MEWP if wind speed or gusts [illegible] expected to exceed 28 mph.
Power lines in the vicinity of the work area	Electrocution	- Review the appropriate operator's manual. - Maintain safe distance from the power lines in accordance with the Required Clearance chart.
Overhead obstructions where the MEWP needs to operate	Collision/Crushing	- Always look in the direction you are moving - Use extreme care and slow speeds - Wear personal protective equipment as required
Some areas of the work location may exceed the maximum slope rating for the MEWP	Tip-Over	- Do not operate the MEWP on a slope that exceeds the manufacturer's recommendation. - Elevate only on a firm, level surface. - If alarm sounds, follow the instructions in the operator's manual to lower the MEWP safely

Sample

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WORK PLATFORMS WORKPLACE RISK ASSESSMENT

during the use of the MEWP, it is critical that the user ensures that the operator in the area in which the MEWP is used.

be performed prior to moving the machine to the workplace.

ked for all possible hazards, such as but not limited to:

hose concealed by water, ice, mud, etc.

d electric cables

or hazardous locations

n the ground-bearing pressures imposed by the MEWP in all operating configurations

ions

rized and unauthorized) and other mobile equipment

eration is the safety of workers and the general public who can be exposed to potential maintain a controlled area below and around the MEWP to prevent persons and objects tself or objects that may fall from the elevated platform.

unloaded from a transport vehicle on a public road, the users and operators must ensure ken to protect everyone in or near the area.

are not limited to:

ering reflective clothing;

e and other vehicles of the presence of the MEWP and the transport vehicle.

al information can be found in the ANSI A92.24-2018 and CSA B354.7:17 Standards. We y of the standards and read them in their entirety prior to developing your Safe Use Plan.

can be purchased at: https://shop.saiaonline.org

be purchased at: https://store.csagroup.org

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WORK PLATFORMS WORKPLACE RISK ASSESSMENT

Date: _____

a previous assessment? [ ] No [ ] Yes If yes, date of previous assessment: _____

	RISK	CONTROL MEASURE

y:

Signature: _____
Signature: _____
Signature: _____
Signature: _____
Signature: _____
Signature: _____
Signature: _____
Signature: _____

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Rescue Planning

The User must develop a written Rescue Plan that will be carried out in the case of machine breakdown, platform entanglement or fall from platform.

The plan shall be put in writing and become part of the company's training manual.

All occupants must receive training that explains procedures to follow if they fall and await rescue or witness another worker's fall.

This plan must limit the time that a properly restrained worker hangs suspended in the air.

Rescue plans can include the following:

a) Self-Rescue – by the person involved

b) Assisted Rescue – by others in the work area

c) Technical Rescue – by emergency services

Rescue Planning

Rescue Planning

Self-Rescue – by the person involved

- Self-Rescue System

- Allows controlled descent at 3.5 fps

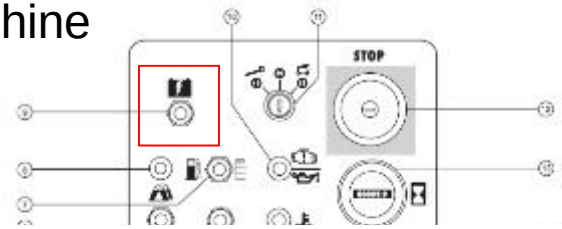
- 100’ version allows access and rescue by smaller Aerial Work Platforms

- Suspension Trauma Straps

Rescue Planning

Assisted Rescue – by others in the work area

- Learn how to operate the ground controls to lower the machine



- Understand how the Auxiliary Lowering System functions

- Have backup Aerial Work Platforms on site

Rescue Planning

Technical Rescue – by emergency services

- Fire Department

- Air Rescue

Rescue Planning

RESCUE PLANS FOR MOBILE ELEVATING WORK PLATFORMS

WHY ARE RESCUE PLANS CRITICAL WHEN OPERATING MOBILE ELEVATING WORK PLATFORMS (MEWPs)?

Mobile Elevating Work Platforms are designed and manufactured to include fall protection in the form of platform guardrails, and the ANSI A92.22 and CSA B354.7 Standards also require personal fall protection equipment (PFPE) on all Group B MEWPs (booms). However, there are situations where an individual may fall or be ejected from the platform, the platform may become entangled, or the machine may experience a breakdown and the operator and any occupants in the platform require a rapid rescue response.

Even a person properly fitted with a full body harness may receive injuries during the fall or begin to experience suspension trauma (blood pooling in their legs) within a very short period of time. Research indicates that suspension in a fall arrest device can result in unconsciousness, followed by death, in less than 30 minutes. According to ANSI Z359.4-6.1, the recommended goal for rescue subject contact is less than six minutes.

In the event of platform entanglement or machine breakdown that would prevent the operator from lowering the platform safely to the ground, it is critical to have a plan in place to ensure a timely rescue.

A rescue plan is a necessary component of a risk assessment when working at height.

Per OSHA 1926.502 [D] [20] and OSHA 1910.66: "The employer shall provide for prompt rescue of employees in the event of a fall or shall assure that employees are able to rescue themselves."

ANSI A92.22 and CSA B354.7 Standards require employers to have a rescue plan in place and ensure that workers are trained on procedures to follow if they fall and await rescue or witness another worker's fall. The plan must be put in writing and become part of your company's training program.

Rescue Plans Should Include the Following:

- Company name and location
- Work site location (if different)
- Identification of fall hazards associated with the operation of the MEWP
- Identification of work procedures to eliminate or mitigate the risk
- Training on:
  - Self-rescue (by the person involved),
  - Assisted rescue (by others in the work area) and,
  - Technical rescue (be emergency services.

It is critical to ensure that:
- only properly trained, qualified and authorized personnel operate the MEWP,
- that they wear the appropriate personal fall protection equipment (PFPE) for the task at hand, and
- they have received instruction on how to properly inspect, don and adjust the PFPE.

Options for Rescue (to be covered in detail on the following pages):

- Use of platform auxiliary controls by the operator
- Use of the primary ground controls by others in the work area,
- Use of the auxiliary ground controls in the case of main system malfunction,
- Platform-installed self-rescue systems
- Personal self-rescue systems
- Secondary MEWP for mid-air rescue
- Agreement with local authorities to provide technical rescue

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ELEVATING WORK PLATFORMS

s stop responding, the operator should first attempt to
the machine to the ground.

responding and there are no other workers in the area
self-rescue system may be employed.
s that can be mounted in the platform that allow the
and using the device to lower themselves to the

e use of the system and machine manufacturer
achine.
s critical that they continuously pump their legs (as if
uspension trauma injury.

ual from the platform, or to self-rescue after
n.
at can be mounted directly onto the operator's full-
d to the device prior to commencing the work.
y exiting the platform and activating the device to
scue range from another MEWP.
e use of the system and approval from their employer

l be a consideration in any rescue plan is a suspension

straps of the operator's harness. In the case of fall or
the case to release the straps, connects them at the
by the straps.
rness and relieve the pressure being applied to the

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ELEVATING WORK PLATFORMS

ork area):

riately trained personnel.

mply with section 6.8.12 of the ANSI A92.22 Standard.

the platform to the ground by means of the primary or
has been incapacitated, a person on the ground who has
ols may use the primary ground controls to lower the
uld first attempt to activate the platform auxiliary controls

ols are not responding, the person on the ground should

escue of MEWP occupants if the machine is unable to be
achine malfunction or work platform entanglement.
itical for the operator and occupants to be removed from
o free the platform.
ter of gravity must be stabilized and secured before

ed out only after a thorough site review has been
e plan should take into account the following:
itioned to allow the rescue to be performed without
nnel involved in the rescue;
all be adjacent to each other with a minimal gap between
es should be shut off during the transfer;
vent unintended movement of either platform during the

e wearing the proper fall protection equipment and the
anchor points on the rescue machine before the transfer

verloaded at any time during the rescue. This could mean
plete the rescue; and
urer's requirements stated in the operator's manual.
xposure, emergency personnel must immediately be

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ING WORK PLATFORMS

k of exposure.
rm may be stranded at height and any

ical rescue, their response time and the
ement for prompt rescue after a fall

ent person or program administrator
place before starting workplace
g used and the environment where the

l capability, any limitations on the types
be called and if they need to be
at they may ensure the fastest possible

Proposed Response

tor should activate platform auxiliary ols to lower the machine to the ground
n on the ground who is familiar with the ne ground controls should use the primary d controls to lower the machine.
n on the ground who is familiar with the ne ground controls should use the ary ground controls to lower the machine.
diately contact onsite qualified personnel ess the situation and provide further nce.

operate the ground controls:
_____ Phone/Radio/Page: _____
_____ Phone/Radio/Page: _____
_____ Phone/Radio/Page: _____
_____ Phone/Radio/Page: _____
_____ Phone/Radio/Page: _____

_____ Phone/Radio/Page: _____
_____ Phone/Radio/Page: _____

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Operator Training

Operator training will remain very much as it is now with a few additions:

a) Must cover proper selection of the correct MEWP for the work to be performed;

a) Must cover Risk Assessment

b) Must cover Rescue Planning

c) Must cover *Occupant Training*

d) ANSI Only – Will allow qualified operators to self-familiarize

e) CSA Only – Training expires after five years

Current operators will need to be retrained to the new standards

MEWP Selection

- Who will use the equipment?
- What site characteristics influence the use?
- When will the equipment be used?
- Where will the equipment be used?
- How will the equipment be used?

For Example:

- **How high?**
- **Outreach or not?**
- **How many people in the platform?**
- **How much do materials, tools, equipment weigh?**
- **Inside or outside or both?**
- **Level terrain? Slab floor?**
- **Rough Terrain? Mud, Sand or Snow?**
- **Narrow or congested access?**
- **Weight capacity of flooring material?**
- **Need to drive up ramp?**
- **Unusual working conditions? Hours?**
- **Doorway access? Single or double or larger?**
- **Vehicles available for transporting?**
- **Power source?**

Supervisor Training

The User must ensure that all personnel that ***directly supervise*** MEWP operators are trained in the following areas:

a) Proper selection of the correct MEWP for the work to be performed;

b) The rules, regulations and standards that apply to MEWPs, including the provisions for safe use as defined in ANSI A92.22 Training and Familiarization, and the work being performed;

c) Potential hazards associated with use of MEWPs and the means to protect against identified hazards;

d) Knowledge that the manufacturer's operating manual(s) are an integral part of the equipment and need to be stored properly in the weather resistant compartment on the MEWP.

Occupant Instruction

The MEWP operator must ensure that all occupants in the platform have a basic level of knowledge to work safely on the MEWP.

a) The requirement to use fall protection and the location of fall protection anchors;

b) Factors including how their actions could affect stability;

c) Safe use of MEWP accessories they are assigned to use;

d) Site specific work proce[illegible]he operation of the MEWP;

e[illegible] the

Maintenance/Repair Personnel Training

Users must ensure that maintenance and repair personnel are trained by a qualified person to inspect and maintain the MEWP in accordance with the manufacturer's recommendations and ANSI and CSA standards.

In the case where a MEWP is being rented, arrangements must be made by the owner to identify the entity that will be responsible for the inspections and maintenance activities described in the standard:

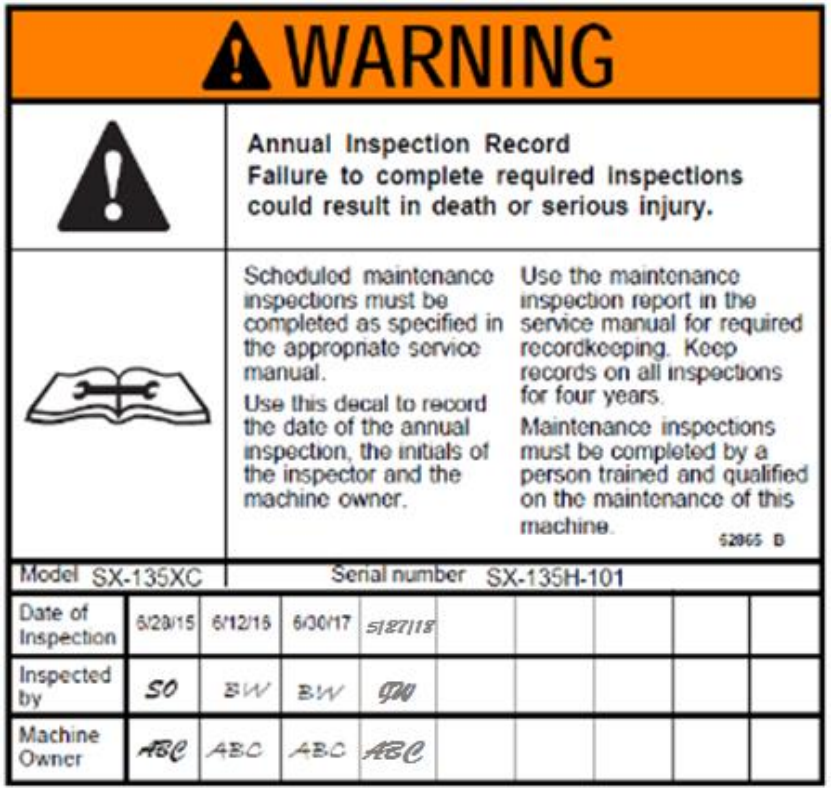
Frequent Inspections –
Three months or 150 hours, whichever comes first

Annual Inspections –
Performed no later than 13 months after the previous Annual Inspection

Maintenance/Repair Personnel Training

Annual Inspections –

The owner must maintain on the MEWP a means, as provided by the manufacturer, to identify the date the last annual inspection was performed and the interval at which annual inspections are required.



WARNING

Annual Inspection Record
Failure to complete required inspections could result in death or serious injury.

Scheduled maintenance inspections must be completed as specified in the appropriate service manual.

Use this decal to record the date of the annual inspection, the initials of the inspector and the machine owner.

Use the maintenance inspection report in the service manual for required recordkeeping. Keep records on all inspections for four years.

Maintenance inspections must be completed by a person trained and qualified on the maintenance of this machine.

52065 B

Model SX-135XC Serial number SX-135H-101

Date of Inspection	5/28/15	6/12/16	6/30/17	5/27/18					
Inspected by	SO	BW	BW	QW					
Machine Owner	ABC	ABC	ABC	ABC					

Final Review

- Equipment Terminology
- Equipment Design Standards
- Safe Use and Planning
- Risk Assessment Planning
- Training (Operators, Supervisors & Occupants)
- Maintenance and Repair Personnel Training

https://www.saiaonline.org/a92
https://store.csagroup.org/

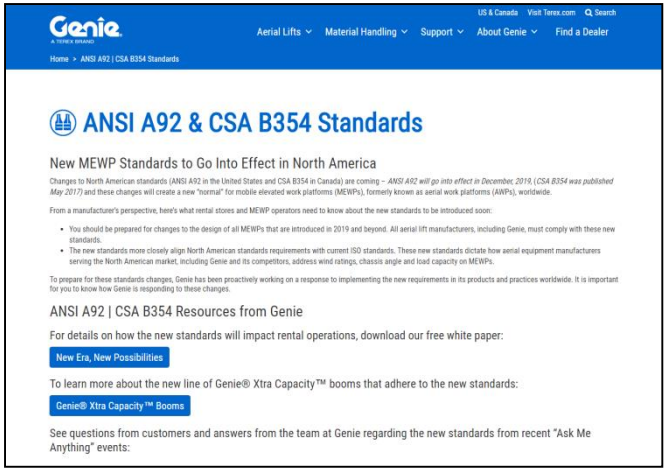
We Are Here to Help

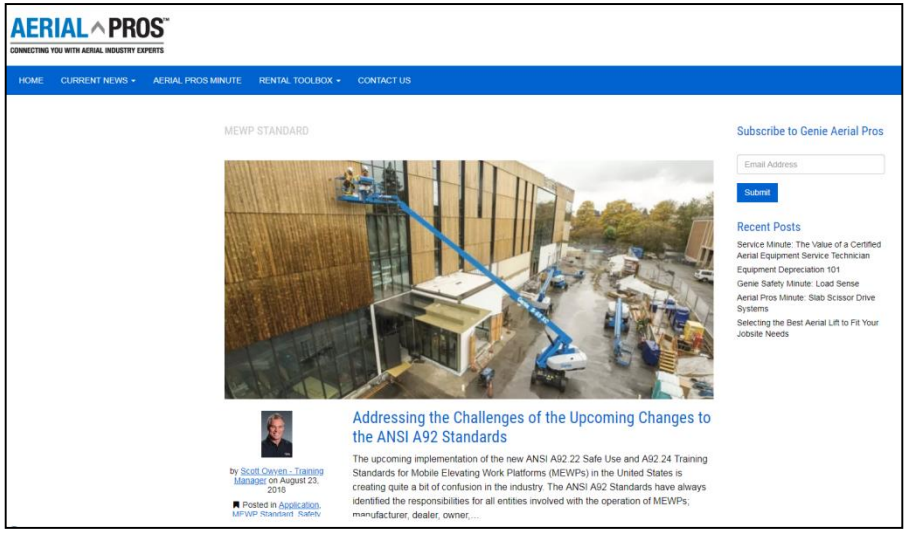
Customer Materials:

Customers can find additional information at:

- Genie ANSI 92 Web Page (link below)
  genielift.com/A92

- Genie Aerial Pros Web Site
  Under MEWP Standard section
  aerialpros.genielift.com





FORKLIFT TRAINING SYSTEMS

Contact us today for more information on MEWP operator or trainer training information.

Phone: 614-583-5749
Email: info@forklifttrainingsystem.com
Website: www.forklifttrainingsystems.com