

Safety Alliance Furthering Educational Resources

A safety alliance between the Rhode Island construction industry and OSHA

# May 1, 2019 Meeting

ANSI A92 Changes - Lance Courtemanche, Genie Terex

What's New in Ladders – Werner Ladder

Coffee & Calories
Sponsored by: RI AGC

Safety Alliance Furthering Educational Resources

A safety alliance between the Rhode Island construction industry and OSHA

# Guests

Safety Alliance Furthering Educational Resources

A safety alliance between the Rhode Island construction industry and OSHA

# New Members

Safety Alliance Furthering Educational Resources

A safety alliance between the Rhode Island construction industry and OSHA

# Announcements

Safety Alliance Furthering Educational Resources

A safety alliance between the Rhode Island construction industry and OSHA

### Web Site Updates

www.buildingsaferinri.org

Safety Alliance Furthering Educational Resources

A safety alliance between the Rhode Island construction industry and OSHA



**Area Director - Providence Office** 

Safety Alliance Furthering Educational Resources

A safety alliance between the Rhode Island construction industry and OSHA







When planning or managing a job does your company or organization take steps to specifically identify the potential catastrophic events?

If so, how do you approach identification and prevention?

Are preventive measures developed different from basic compliance with OSHA standards?

Safety Alliance Furthering Educational Resources

A safety alliance between the Rhode Island construction industry and OSHA



Changes to ANSI A92 and CSA B354 Standards –

What You Need to Know

Scott Owyen, Genie Senior Training Manager









# Aerial Work Platform Categories













#### **Current Standards**



- ANSI

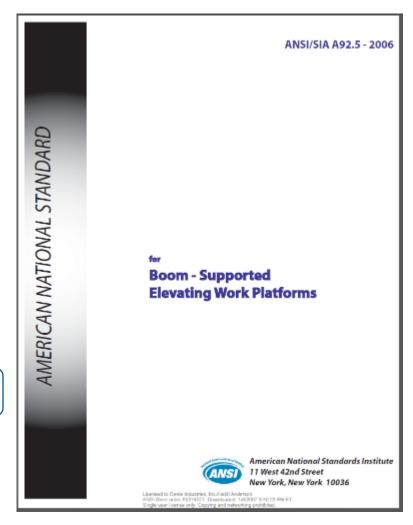
(American National Standards Institute)

## <u>ANSI A92</u>

- SAIA

(Scaffold and Access Industry Association)

ANSI Standards are Voluntary









#### 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 <u>mandatory</u>.







#### 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 vehiclemounted elevating and rotating work platforms.







#### 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** Fact Sheet

#### **Aerial Lifts**

- Drop-offs, holes, or unstable surfaces such as loose dirt:
- Inadequate ceiling heights:
- Slopes, ditches, or bumps; Debris and floor obstructions;
- Overhead electric power lines and communica-
- Do not position aerial lifts between overhead hazards if possible.
- · Treat all overhead power lines and communication cables as energized, and stay at least 10 feet (3 meters) away.
- · Ensure that the power utility or power line workers de-energize power lines in the vicinity

#### 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.

n it is and

rough

nuary

#### ANSI A92.22 – Safe Use

· Instructions for correct operation of the lift (including maximum intended load and load

#### Demonstrations of the skills and knowledge needed to operate an aerial lift before operating

· When and how to perform inspections; and

Recognizing and avoiding unsafe conditions in

Manufacturer's requirements.

Guardrail systems.

Do not operate any aerial lift if any of these components are defective until it is repaired by a qualified person. Remove defective aerial lifts from service (tag out) until repairs are made.

#### Work Zone Inspections

Employers must assure that work zones are inspected for hazards and take corrective actions to eliminate such hazards before and during operation of an aerial lift. Items to look for include

ANSI A92.24 – Training his is one in a series of informational fact sheets highlighting OSHA programs, policies or standards. It does not

any new compilance requirements. For a comprehensive list of compilance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory-impaired individuals upon request. The voice phone is (202) 693-1999; the teletypewriter (TTY) number is (877) 889-5627.

For assistance, contact us. We can help. It's confidential







#### 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





#### UNITED STATES DEPARTMENT OF LABOR

#### 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





#### **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





## Pending ANSI A92 Changes



# 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 10<sup>th</sup>, 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





## **Pending Changes**



- Equipment Terminology
- Equipment Design Standards



- Safe Use and Planning
- Risk Assessment Planning
- Training
- Repair and Maintenance













# Mobile Elevating Work Platforms *MEWP*





# Mobile Elevating Work Platforms *MEWP*

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

- a) a MEWP **Group**
- b) an associated MEWP Type

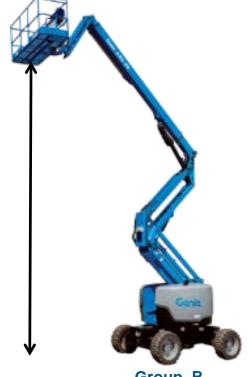




# MEWP Groups

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





Group 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 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



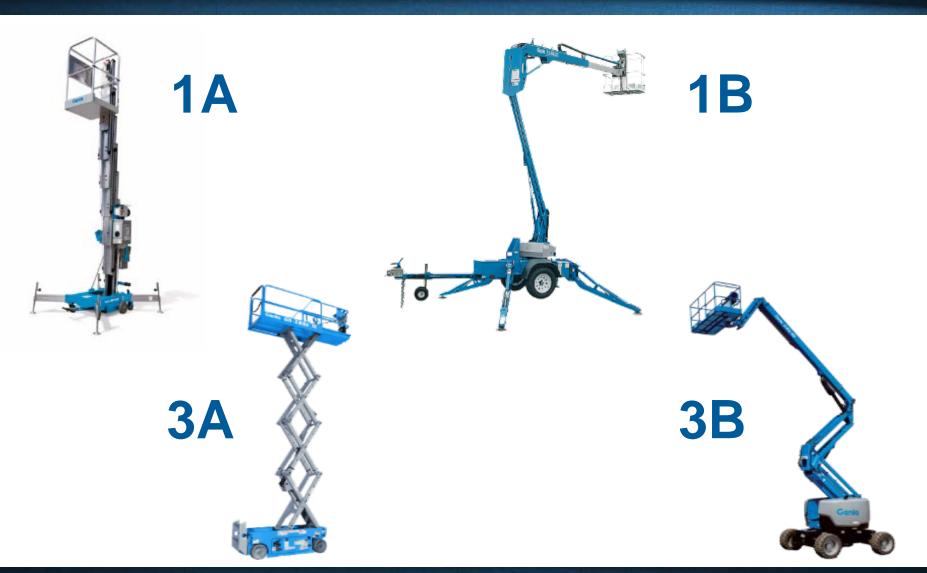


Type 3, Group B (3B)



# Terminology Examples







## **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



- SX-105, SX-125 & SX-135 Available Now
- Others to be released throughout the year

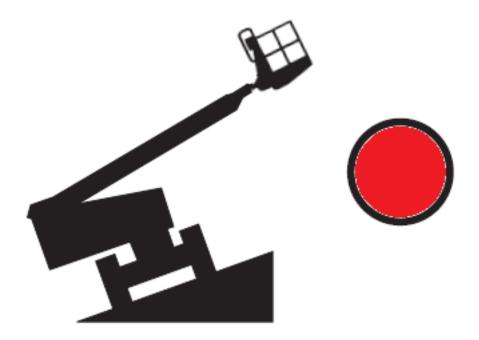


## **Equipment Design Standards**



#### **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



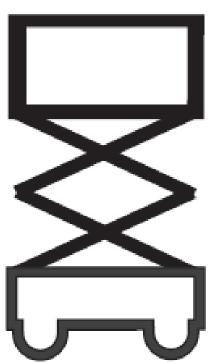


## **Equipment Design Standards**



#### **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





## **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

# Ganie GS-1930

#### **Raise and Lower Speeds**

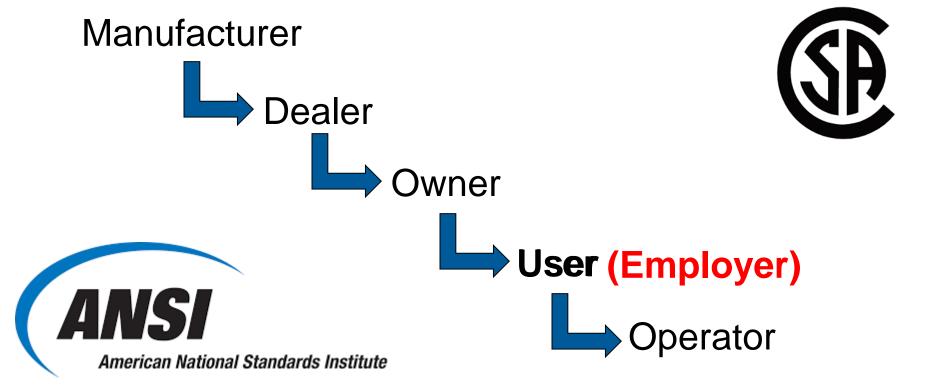
- Raise and lower speeds will be reduced on some models





## **ANSI & CSA Standards**







## 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 Example



#### **AWP JOBSITE CHECKLIST**

COMPANY NAME:	DATE:		
TYPE: MODEL: _		PROJECT #:	
QUIPMENT/ID #: HR. METER RE	HR. METER READING:		
KSPECTOR'S NAME:			
he following items must be checked as applicable. If not	applicable,	chock N/	A. Please see back for description
CHECK & NOTE			DESCRIBE HAZARD & CORRECTN
perator and occupants trained	□ Yes	DN/A	
Will the lift platform reach the work area? Lift platform to work area from lower controls to ensure the platform reaches work area.	□ Yes	DWA	
iartace and soil conditions where the lift will be operated; including of fiscent strength to withstand all their spread load forces improved y the serial platform is all operating configurations. See operator's natural.	E3 Yes	ONA	
Pedestrian traffic where the lift will be operated - barricades, traffic soutrel	□ Yes	DN/A	
"ablic roedways, spotter, signel person	□ Yes	DNW	
Precautions for other moving equipment - barricades, traffic control	□ Yes	DNA	
Sarrow alsies and other restricted places where the lift will be operated	∃ □Yes	ONA	
Ramps and other sloped surfaces that could affect the vehicle's stability	□ Yes	DNA	
Drop-offs or heles, including those concealed by water, ice, mud, etc.	□ Yes	DN/A	
Dubris, housekeeping, pick up dubris	EI Yes	DWA	
Burego or floor obstructions	□ Yes	DWA	
Overhead obstructions and crashing hazards	☐ Yes	DWA	
Dectrocution hazards, stay 20 feet sway or notify power company o Lock Out power. Observe minimum approach distance. Refer to Speculors Manual.	□Yes	DNA	
Hazardous environmental locations where the vehicle will be operated	□ Yes	ONA	
Wind and weather conditions - lightning, wind limited to manufacturers equirements	: □Yes	DWA	
losed environments and other areas where insufficient ventilation or our whicle maintenance could cause a buildup of carbon monoxide or level exhaust	□ Yes	DNA	
Other possible ensurin conditions	E2 Yes	DWA	

Costo

If any of the above conditions change, STOP, and address on the back of this form.



II SLAN	BBB W	CHIK.	IIO BIL	UUM	IN UI	IAIL:

ACH ITEM	COMMENTS
penator and Occupants Trained	Training per industry Statement of Seat Practices for Training on AWF's
If the lift platform reach the work area? Lift platform to ork area from upper change controls to ensure the attorns reaches work area.	To avoid over reaching or dishibing on guardrails and to avoid out of level shutdown of the lift a prevent.  lift from the ground controls about the conducted to assure the work platform reaches the work.  axes softly:
of ace and soil conditions where the left will be wested; including sufficient strength to withstand all sonignound load forces imposed by the senial platform all opending configurations, see operator's manual	If an -our local ground, shoult and conditions and types (K. B. Q) to assure actingsole support to socials leads. Getermine if conditions could lead to slippings or slicing. Check auptivitionscents conditions are stable to support lead.
cleatries traffic where the lift will be operated - pricades, Traffic Control	Check for established work zone incommend 10 feet beyond operating radius of the boom) Ensure all manufacturer installed warning darms and lights are functioning
útic roedways, spotter, signal person	Where spotters are used, ensure spotters and operator are knowledgeable of hand signals to guide lift reoversors.
ecoations for other moving equipment - Barricades, affic Control	Check that barricodes and traffic control devices are in place. Spotters, flag control and communications are working in concert.
arrow sistes and other restricted places where the lift.  Blue operated	Ensure adequate traffic controls and operating environment signs and control measures are in place (barricade roges, calety absences etc.)
emps and other stoped surfaces that could affect the hicke's stability	Refer to and follow the manufacturer's operator's monad for the lift you are operating for slope and grade appendixtors. DO NOT EXCESS those appendixations, be every of lift alarm and varning lights. Most lift must be operated on Fire, Patr and Level surface.
rep-elfs or holes, including those concealed by water, s, mud, etc.	Walk the work area and took for helve, drop-offs and converings that may conceal a hole. Mark these hazards with benticedes and avoid them. Lifes are heavy and will break though covered holes or floors.
stris, housekeeping, pick up debris	Keep your work area free from debris that sould cause tip over or interfere with smooth operation of the lift or cause tire damage.
imps or floor obstructions	00 NOT DRIVE WHILE ELEVITED OVER ROUGH TERRAIN. Any change in flaor elevation car cause the lift to join audiently and may cause the occupants to be catapathed. Proceed with cautien over bumps and changes in elevation with the lift between due noticated.
verticed abstractions and crushing hazards	Be exert of everhead obstacline and the filst of the lift at height that could cause instructed contact with the obstacle. DO RIOT DERIV ILLUMIND man obstacles, always use boom controls to approach obstacles or your work. Since down the boom controls, if so equipped, to approach your work divers.
	When does to obstructions use the controls in the following sequence:  • Critice  • Rocate  • Store  • Store  • Intercorpe  • Intercorpe  • The control
	Always ensure adequate vertical clearance between highest point of platform and any obstruction
ectrocation hazards stay 20 feet away or notify over company to Lock Out power. Observe minimum proach distance. Refer to Operators Manual.	Little are NOT insulated. Mertilly overhead wine, have the power company identify voltage then if below DRIce, remain all least 10 km area, it voltage is welcover stag 20 levil one; the molicles are preclaimed handled on 18 th other lay on other the first perspectate ALL OWNERS WIND SAFE CONSISTED POWERS MISS.
cardous environmental locations where the vehicle ill be operated	This includes but is not limited to grain elevators, grain dust, wood dust, coal dust, flammable dust, explosive gazes, explosive stronghores and the like.
ind and weather conditions - lightning, wind limited to enalecturers' requirements	Rofor to the manufacturers' operator's rearrual for the lift you are spending for allowable wind opends while elevation. Come lifts are not to be used subtoms. Consult the eventher delig and monitor wind speech regularly expectable granulo buildings.
osed cevironments and other cross where insufficient, etiliation or poor vehicle maintenance could cause a slidep of carbon monoxide or diesol exhaust	Combustion engines give off Carbon Manacide a.k.a. the "Stlent Ritler". 30 NOT USC combustion engines, such as gas, propose or discell indicate or in enclaved strate.
ther possible unsale conditions	Are there any other areads conditions all your site that reament concern, consult safety, other workers and expressions for excisults hazards you may not be exceed if to a work permit required from the celety department? In these a specific Judanta Safety Analysis ration or Juda to be completed for the work you are done,









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













#### Self-Rescue – by the person involved

- DBI-Sala Self-Rescue System
- Allows controlled descent at 3.5 fps
- 100' version allows access and rescue by smaller Aerial Work Platforms
- Affordable: ~ \$550







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 Platfor







Technical Rescue – by emergency services

- Fire Department
- Air Rescue









#### RESCUE PLANS FOR AERIAL WORK PLATFORM USE

#### WHY ARE RESCUE PLANS IMPORTANT WHEN OPERATING AERIAL WORK PLATFORMS (AWPS)?

Workers restrained by a full-body harness and lanyard can experience suspension trauma following a fall from an Aerial Work Platform (AWP) when they are suspended for a period of time. Lack of muscle movement in the legs can cause pooling of blood in the lower body and the worker may pass out. Age, fitness, dehydration and harness fit all play a role in the duration of time before the onset of suspension trauma. Death can occur if a person is left suspended for too long. It is important to have a plan in place to quickly rescue a worker suspended after experiencing a fall.

#### TYPICAL CONTENTS OF A RESCUE PLAN

- Company and Work Site Name
- Address of Work Site Location
- . Fall Hazards Assessment and identification of all existing and potential fall hazards at work site
- . Procedures Detailed procedures used for the implementation, assembly, inspection, use, maintenance and
- dismantling of fall protection equipment and any equipment involved in the rescue of a worker . Fall Protection Systems - Description of all fall protection systems used to protect workers from fall hazards (i.e. travel restraint, personal fall arrest system, safety net, control zone, etc), including those used for rescue of a worker.
- Where present, identification of the anchors, both engineered and improvised, that workers are to use . Clearance Distances - Assessment, confirmation and documentation of clearance distances

#### OPTIONS FOR RESCUE

- . Ground Controls Rescue plans should include steps to ensure that other personnel have been trained and familiarized to operate the machine from the ground controls and that a key is left in the ground controls during
- . Second AWP Make sure your rescue plans include the availability of a second AWP along with operators trained to use it in the event an operator becomes incapacitated along with a method to transfer personnel in a way that
- . Portable Lift Certain situations will allow for a portable lift to be used as part of a rescue plan to aid in the rescue of incapacitated workers at height by providing the portability of a ladder but the benefit of an aerial work platform. Be sure personnel assigned to the lift in the rescue plan have been trained and familiarized.
- . Pre-installed Self-rescue System These systems are after-market add-on's that can be installed in the basket or platform of an aerial work platform that will allow the operator to self-rescue by leaving the basket and using a secondary means to safely lower themselves to another safe level. These systems require extensive training and machine manufacturer approval prior to installation.
- Self Rescue Equipment Much like pre-installed self-rescue systems, self-rescue equipment provides an aerial work platform operator a tool or device to allow them to lower themselves from the machine in the event of an emergency. This equipment requires extensive training and machine manufacturer approval prior to use.

#### STEPS TO FOLLOW WHEN A WORKER IS SUSPENDED

- . If self-rescue is impossible, or if rescue cannot be performed promptly, the worker should be trained to "pump" his/ her legs frequently to activate the muscles and reduce the risk of venous pooling. Footholds can be used to alleviate pressure, delay symptoms, and provide support for "muscle pumping."
- · Continuously monitor the suspended worker for signs and symptoms of orthostatic intolerance (caused by venous pooling of blood) and suspension trauma.
- . Ensure that a worker receives standard trauma resuscitation once rescued. Some authorities recommend that the patient be transported with the upper body raised.
- . If the worker is unconscious, keep the worker's air passages open and obtain first aid.
- . Monitor the worker after rescue, and ensure that the worker is evaluated by a healthcare professional. The worker should be hospitalized when appropriate. Possible delayed effects, such as kidney failure, which is not unusual in these cases, are difficult to assess on the scene.



#### ON EMERGENCY RESCUE

ns built into a mobile elevating work platform (MEWP) will allow the operator to bring the round level under controlled conditions. It is extremely unusual not to be able to lower the rall of these systems to fail.

scue plan for people who work at height using a MEWP.

el/ID: Location of use:

PLAN: FROM \_\_\_ / \_ / \_\_ TO \_\_ / \_ /

	PROPOSED ACTION
od	Where the normal upper control functions tall, the operator will use the upper auxiliary controls to lower the platform sofely
e MEWP functions while oper control station	Where the operator is inceptable of lowering the rolled platform using the upper centrals, an appointed person familiarised in the use of the 'ground' centrals will lower the platform safely using the normal ground centrals.
	Where the normal ground controls fail, an appointed person familiarised in the use of the 'ground' controls will use the ground auxiliary controls to safely lower the platform.
inclions	Where all normal and auxiliary functions have talled, a competent and suthorfood service engineer should be contached. Name: Contact details:
rson(s) on site, far	miliarised and authorised to lower the work platform in the event of an

	SIGNATURE		
It to the notice of those exposed to the risk of working at height and those			

me work at height.

CONTINUED ON BACK PAGE

expedienal circumstances and only after

ed and these are unable to lower the platform.

service engineer listed in the rescue plan, to report failure of

possible to affect a timely repair to allow the machine to be acted for permission to carry out mid-air rescue.

and an immediate risk exists to the health and safety of any oor can attend, then senior site management should be

e-specific risk assessment has been carried out and a

sue procedure to be carried out without compromising the

with a minimal gap between them, unless exceptional ble, the circumstances shall be recorded onto the risk

event inadvertent movement of both platforms during the

ould wear a full body harness with an adjustable lanvard machine before transfer takes place.

ransfer. This may mean making more than one journey to

4-6128









# **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 Training**



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;





## 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.





## **Final Review**



- Equipment Terminology
- Equipment Design Standards



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





# We Are Here to Help



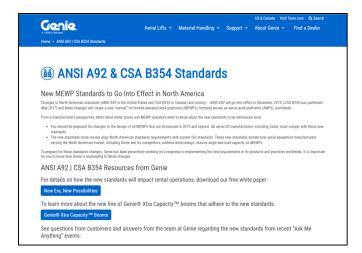


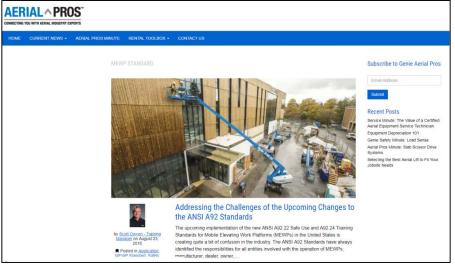
## **Customer Materials:**



#### 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 <u>aerialpros.genielift.com</u>





## Questions?



# Scott Owyen, Training Manager

AWP.Training@Terex.com





#### **AGENDA**









#### Creating a Culture of Safety

- The "Human Condition" and "Crossover"
- "Work Like You Would Walk Traffic Side"

#### Ladder Safety

- Inspection Process
- Safe Use

#### New Ladders

Increasing Safety and Productivity





# The "Human Condition" and "Crossover"

## The "Crossover"



"That single moment in time when a worker makes the conscious, critical decision, to forecast the future through one's actions."

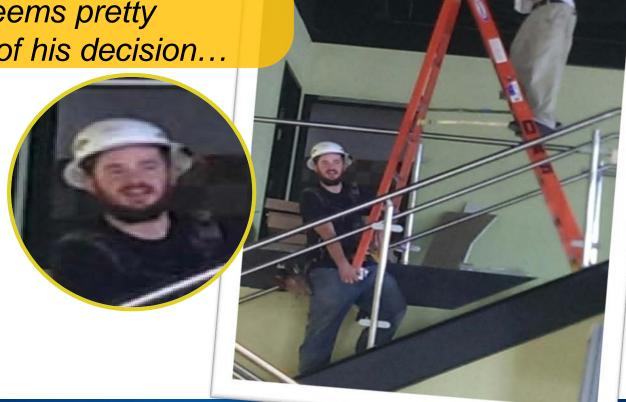


## The "Human Condition"



# The "Crossover"

This guy seems pretty conscious of his decision...



## The "Human Condition"





## The "Human Condition"





#### **AGENDA**





## Creating a Culture of Safety

- "Work Like You Would Walk Traffic Side"
- The "Human Condition" and "Crossover"

#### Ladder Safety

- Inspection Process
- Safe Use





#### **OSHA & ANSI**









Werner ladders are manufactured and tested to the strictest quality standards. All Werner ladders meet or exceed American National Standards Institute (ANSI) and Occupational Safety and Health Administration (OSHA) requirements, where applicable.



## OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION CODE

All Type II, I, IA and IAA fiberglass, aluminum and wood ladders, ladder jacks and extension planks meet or exceed code. OSHA CODE applies to ladders used in the workplace. Werner Co. recommends Type II or heavier duty rated ladders for these applications.



#### AMERICAN NATIONAL STANDARDS INSTITUTE

#### PRODUCT LINES MEET OR EXCEED ANSI CODE

Fiberglass Ladders	A14.5 (2007)
Aluminum Ladders	A14.2 (2007)
Ladder Jacks	A10.8 (2001)
Extension Planks	A10.8 (2001)
Scaffolding	A10.8 (2001)
Stages	A10.8 (2001)
Work Platforms	A10.8 (2001)
Attic Ladders	A14.9 (2010)

OSHA Standard 1926.1053 Subpart X " Stairways & Ladders"





# Ladder Safety - Safety+Health

The Official Magazine of the NSC Congress & Expo





















▲Increase from 2017

(§1910,178)



5







# Ladder Safety - OSHA Violations





#### **LADDERS**.

STANDARD: 1926-1653

TOTAL VIOLATIONS: 2,567

FISCAL YEAR 2016 RANKING: 7 (2,625 VIOLATIONS)

#### TOP 5 SECTIONS CITED:

- 1. 1926.1053(b)(1) When portable ladders are used for access to an upper landing surface, the ladder side rails shall extend at least 3 feet above the upper landing surface to which the ladder is used to gain access; or, when such an extension is not possible because of the ladder's length, then the ladder shall be secured at its top to a rigid support that will not deflect, and a grasping device, such as a grabrail, shall be provided to assist employees in mounting and dismounting the ladder. 450
- 2. 1926.1053(b)(4) Ladders shall be used only for the purpose for which they were designed. 333
- 1926.1053(b)(13) The top or top step of a step ladder should not be used as a step. 219
- 1926.1053(b)(16) Portable ladders with structural defects shall either be immediately marked in a manner that
  readily identifies them as defective, or be tagged with "Do Not Use" or similar language, and shall be withdrawn
  from service until repaired. 108
- 1926.1053(b)(6) Ladders shall be used only on stable and level surfaces unless secured to prevent accidental displacement. – 79





#### **Ladder Safety - Statistics**











- 2 most common ladder accidents include:
- 1. Overreaching
- 2. Missing the last step when climbing down

#### Choosing the Correct Ladder – *Height (Size)*







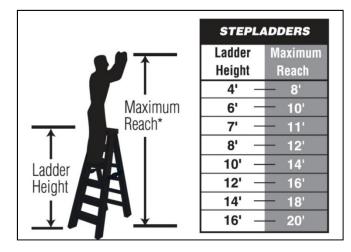


#### Focus on Reach Height

- Calculating ladder size: Standing level + Person's height + 12" reach
- Highest standing level on a stepladder; 2 steps down form the top
- Highest standing level on extension ladders: 4 rungs down from the top

#### Considerations about Ladder Size

- Maximum standing height is lower less than ladder size
- Usable length on extensions is shorter than rated size due to overlap
- ANSI Rating: Length of the rail(s)



	•	/ <del>*</del>	E	KTENSION L	ADDERS	
Ladder Height	I		Ladder Height	Maximum Reach	Height To Gutter or Top Support Point††	
		Massimassima	16' —	<b>—</b> 15'	9' max.	
		Maximum Reach*	20' —	<b>— 19</b> '	9' to 13'	
			24' —	<b>—</b> 23'	13' to 17'	
			28' —	<b>–</b> 27'	17' to 21'	
			32' —	<b>—</b> 31'	21' to 25'	
			36' —	— 34 <sup>1</sup>	25' to 28'	
<b>\_</b>	+		40' —	— 37 <sup>1</sup>	28' to 31'	
	•				xtension ladders re or 3' extension abov	





#### **Choosing the Correct Ladder - Style**

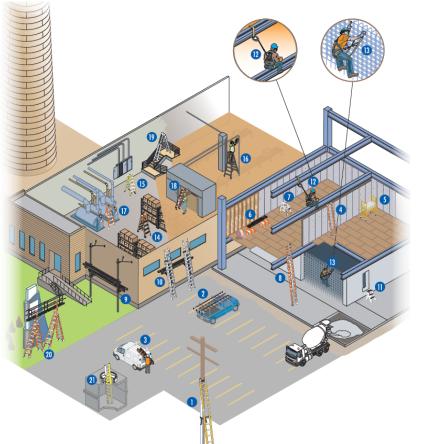


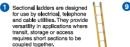






- Different styles of ladders are designed to keep you safe and productive
- More styles exist beyond basic stepladders and extension ladders







Van racks used primarily in the paint industry to transport ladders safely to jobsite.

Single one-section non-extendable ladders provide easy access to

Steel rolling scaffold has 1000 lbs, load capacity, Sets up with 1 nerson Add additional sections for more height. No tools required. Easily another for maximum

Twin step stools are ideal for using with

Special purpose work stands are great for wallboard installers and

 Extension ladders are available in a wide sizes. They can handle

an extremely wide range of tasks at varying elevations and are the most popular on construction and job sites Oomplete pump jack system designed for siding applications. Adjusts to easily work at iob. Allows workers to safely at various heights

Create productive climbing equipment systems with extension and aluminum stages.

 Lightweight, sturdy and compact step stools are handy for many applications. Unlike regular stepladders, you can stand on the top platform.

12 Fall protection self retracting lifeline(SRL), harness and anchor used on i-beam

 Fa
 protection harness and positioning lanyard used at elevated heights for deal application on rebar.

Stockr's Ladder\*s combine a twin stepladder with a revolutionary warehouse type ladder with a large

Stepladders are the most popular of all ladder styles. These ladders are often used for applications at low or medium heights. Ladder tops and pail shelves can hold tools, small parts and

16 Podium ladders are ideal for working at fixed heights. The extra large platform allows you to work facing any direction. The extended quard rail wraps around the user and holds tools





or in work vehicles.

















#### Choosing the Correct Ladder – *Duty Rating*







200lbs. 225lbs. 250lbs. 300lbs. 375lbs.



Weight of the person *plus* the weight of materials

Duty Ratings based on weight load capacity

APPROXIMATE MATERIAL	WEIGHTS
Bundle of shingles	70 lbs.
5 gallon roof coating	70 lbs.
5 gallons paint	60 lbs.
Tool box with tools	35 lbs.
Portable sprayer	20 lbs.
Ceiling fan	30 lbs.
3 x 4 window	80 lbs.
Garage door opener	40 lbs.
Basketball hoop	60 lbs.
Sheet of plywood	80 lbs.
(3) 4 x 4's	80 lbs.

Exceeding load capacity may cause ladder to collapse





### **Choosing the Correct Ladder - Material**













- High impact durability
- Heavier weight

**ALUMINUM** 

Not for use around electricity

Generally higher price



- Lightweight
- Generally lower price

Lightweight

- Electrically conductive
- Not allowed on most jobsites









### **Ladder Safety - Inspection Process**





How often are you supposed to inspect a ladder? Why?

#### Walk it Down

Top: Cracked, loose, or missing

Rails: Cracked, bent, split or frayed rail shields

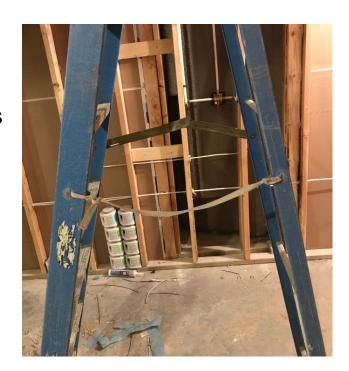
Steps: Loose, cracked, bent, or missing

**Spreader:** Loose, bent, or broken

Labels: Missing or not readable

Base: Bracing, shoes, rivets

**General:** Rust, corrosion, loose, fire exposure



- How many things need to be wrong with the ladder to remove from service?
- You do have a bad ladder... how do you dispose of it?





### **Inspection Process– Safety Labels**









#### Safety Instructions for Step & Extension Ladders

Safety instruction labels contain information regarding the inspection, setup and use, and care and storage of ladders.



Step & Extension Ladder Safety Instructions

#### Extension Ladder Setup

This label provides safety instructions to properly set-up an extension ladder and check that it is at a 75-½° angle



Extension Ladder Set-Up Label

#### Separating Extension Ladder Sections

Certain extension ladders may be separated and the base and fly sections used independently.



Instructions may vary by model.

On most models, the fly section must not be used as a single ladder. Refer to labels on ladder.



Extension Ladder Separation Instructions for Fly & Base Sections

#### Think Safety! Read Labels Before Climbing.

- Ladder Inspection
- Proper Set-up and Use
- Proper Care and Storage

For Your Customer's Safety:

Werner offers replacement safety instruction labels.





### **Inspection Process– Duty Rating Labels**





#### Ladder Identification Labels

I.D. labels provide important information regarding each ladder's Model Number, Type, Duty Rating, Size, and Highest Standing Level.





Combined weight of user and material should not exceed duty rating

#### APPROXIMATE MATERIAL WEIGHTS

	***
Bundle of shingles	70 lbs.
5 gallon roof coating	70 lbs.
5 gallons paint	60 lbs.
Tool box with tools	35 lbs.
Portable sprayer	20 lbs.
Ceiling fan	30 lbs.
3 x 4 window	80 lbs.
Garage door opener	40 lbs.
Basketball hoop	60 lbs.
Sheet of plywood	80 lbs.
(3) 4 x 4's	80 lbs.



### **Inspection Process - Discolored Ladder Rails**











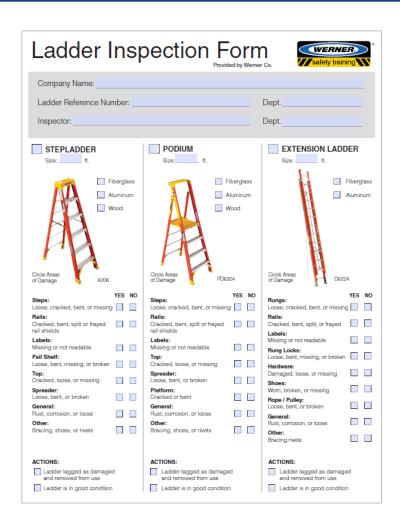
### **Ladder Safety - Inspection Form**

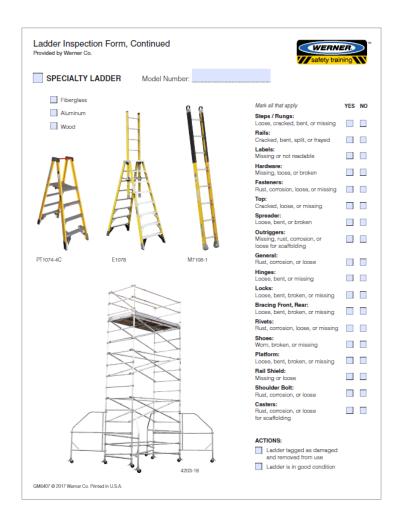












Great for files or reference point - Just ask for a copy!

Inspections → Fixing/Destroying Ladders → Safety





### **Ladder Safety – After Inspection**





## What should you do after an inspection?

- Tag and remove from service any defective ladders
- Clean fiberglass ladders
- Replace worn or frayed ropes on extension ladders
- Lubricate pulleys on extension ladders regularly
- Destroy ladders that cannot be repaired by a person authorized by the manufacturer
- Re-seal fiberglass

## What should you NOT do after an inspection?

 Do not make temporary or makeshift repairs

 Do not try to straighten or use bent or bowed ladders







### **Ladder Safety – Proper Use**









- How many points of contact?
- Always face the ladder when climbing
- Walking a ladder
- Don't Reach! Keep belt between rails
- Top 2 steps on Stepladder
- Sitting or standing on top lid
- Avoid setting up a ladder in a doorway or pedestrian path



Not sure? Look at Labels

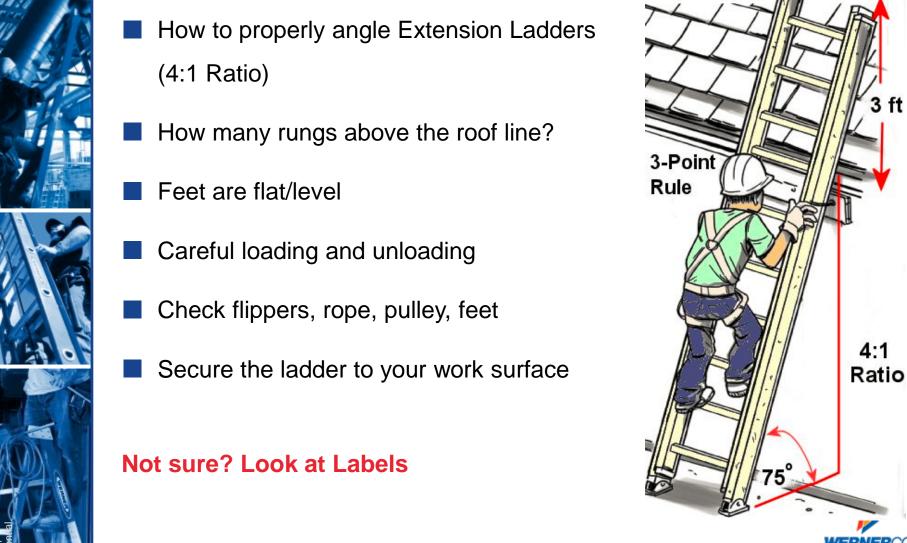




### **Ladder Safety – Proper Use**







### **AGENDA**







- "Work Like You Would Walk Traffic Side"
- The "Human Condition" and "Crossover"



- > Inspection Process
- Safe Use

New Ladders



## **LEANSAFE**









- LEANSAFE™ Ladder Top with non-marring rubber bumper securely leans against walls, poles, corners, and wall studs, and holds tools to increase productivity
- Dropped rear rail pivot point gets ladder closer to your work
- Color and branding differentiates LEANSAFE™ from standard stepladders
- Rail latch with single action opening and closing locks the rear rail to the front rail to keep the ladder in leaning mode
- Curved footpad on front feet maximize surface contact with the ground in both leaning mode and stepladder mode
- Double riveted slip-resistant TRACTION-TRED® steps





- Back-up plates reinforce all top connectors
- Heavy duty internal spreaders
- Full set of rear horizontals spaced one per foot
- EDGE360™ bracing protects the ladder feet from every angle
- Every rivet backed up by metal, metal plates or washers to protect rails



## **LEANSAFE**





### 375lb. Load Capacity

		STEPLADD	ER MODE	LEANING MODE		
Model No.		Max Standing Height	Max Reach Height*	Max Standing Height	Max Reach Height*	
L7304	4'	1'8"	8' 4"	10"	7' 3"	
L7306	6'	3' 10"	10'	2' 10"	9'	
L7308	8'	5' 9"	12'	4' 9"	11'	
L7310	10'	7' 8"	14'	6' 8"	13'	
L7312 12'		9' 7"	16'	8' 7"	15'	

<sup>\*</sup> assumes a 5' 6" person with a vertical 12" reach



### 300lb. Load Capacity

		Steplado	ler Mode	Stepladder Mode			
Model No.			Max. Reach Height	Max. Standing Height	Max. Reach Height		
	A!		- v				
L6204	4'	1'-8"	8'-4"	10"	7'-3"		
L6206	6'	3'-10"	10'	2'-10"	9'		
L6208	8'	5'-9"	12'	4'-9"	11'		
L6210	10'	7'-8"	14'	6'-8"	13'		
L6212 12' 9'-		9'-7"	16'	8'-7"	15'		
*assumes a 5'-6" person with a vertical 12" reach							







## **PODIUM**





- 300 & 375 lbs Load Capacity, Type IA & IAA Duty Rating
- Double riveted slipresistant TRACTION-TRED® steps
- Back-up plates reinforce al top connectors
- Full set of rear horizontals spaced one per foot
- All steps and two rear horizontals are knee-braced
- 4X Work Zone to reach all directions
- Extra-large platform for long standing comfort





- LOCKTOP™ Extended guard rail securely wraps around work zone and holds an arsenal of tools
- Edge360™ includes an integrated rail shield, EDGE bracing and oversized foot pads





## **PODIUM**





### 375lb. Load Capacity

Model No.	Height (Size) to Platform	Max. Reach	Approx. Width	Approx. Spread	Approx. Cu. Ft. Per Unit	Approx. Shipping Wt. Lbs.	Model No. with Casters	Approx. Shipping Wt. Lbs.
PD7303	3'	9	26"	37"	9.2	21.0	PD7303-4C	28.3
PD7304	4'	10'	27-1/2"	43"	11.3	26.5	PD7304-4C	33.8
PD7306	6'	12'	31"	56"	16.4	38.5	PD7306-4C	45.8
PD7308	8'	14'	34-1/2"	68"	22.3	45.5	PD7308-4C	52.8



### **300lb. Load Capacity**

	Height				Approx.	Approx.	Model No.	Approx.
Model	(Size) to	Max.	Approx.	Approx.	Cu. Ft.	Shipping	with	Shipping
No.	Platform	Reach	Width	Spread	Per Unit	Wt. Lbs.	Casters	Wt. Lbs.
PD6203	3'	9'	26"	37"	9.2	21.0	PD6203-4C	28.3
PD6204	4'	10'	27-1/2"	43"	11.3	26.5	PD6204-4C	33.8
PD6206	6'	12'	31"	56"	16.4	32.5	PD6206-4C	39.8
PD6208	8'	14'	34-1/2"	68"	22.3	44.5	PD6208-4C	51.8
PD6210	10'	16'	38"	80"	29.1	55.5	PD6210-4C	62.8







### LOCK-INACCESSORIES







PaintCup & PaintCupLiner



**JobBucket** 



**UtilityBucket** 

### **CUSTOMIZE YOUR LADDER TOP**







**JobCaddy** 



**UtilityHook** 



ToolLasso®



### **Dual Purpose** 2-IN-1 Ladder









- 2 Ladders in 1; Stepladder and Extension Ladder
- Simple Flip and Click design for easy conversion
- Padded V-Rung for working on trees, corners, and poles
- Oversized, molded PROGUARD BOOTS™ provide firm slip-resistant footing and protect the fiberglass rail
- Full 3 inch steps for both Stepladder and Extension Ladder positions





- 6 inch Double Step for standing comfort
- Type IA 300 lb. Duty Rating
- Non-conductive Fiberglass
- #1 Brand in professional climbing equipment
- ANSI certified and OSHA compliant for safety

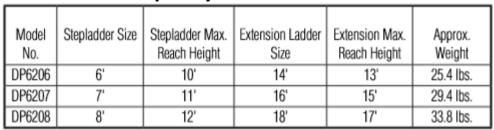


### Dual Purpose 2-IN-1 Ladder





### **300lb. Load Capacity**









### **Tripod Stepladder**









- Back-up plates reinforce all top connectors
- Double riveted comfortable TRACTION-TRED® steps for slip-resistance and durability
- Molded external rail shield helps protect against abrasion and rail damage
- Fully braced front section
- Replaceable riveted, slipresistant foot pad
- Single rear rail allows FTP Series to rest where other ladders can't
- Convenient spreader handle design improves setup and transportability





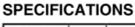
- Makes working in tight spaces easy
- Every rivet backed up by metal plate or washer to protect rails
- Internal aluminum spreaders on 8 ft and 10 ft models



## **Tripod Stepladder**







Model No.	Size	Approx. Width	Approx. Spread	Approx. Cu. Ft. Per Unit	Approx. Shipping Wt. Lbs.
FTP6204	4'	31"	30-1/2"	3.7	17.0
FTP6206	6'	36"	43-3/4"	6.8	23.0
FTP6208	8'	40"	57"	10.1	31.0
FTP6210	10'	51"	71"	17.6	42.0
FTP6212	12'	54"	77-3/4"	22.6	51.0



Тор:	5-3/4" x 13"	Steps:	3" wide
Front Rails:	3-1/8" wide	Rear Rail:	1-1/2" square (4' to 8'), 2" square (10' and 12')
Flange:	1-3/16" wide		







### **Compact Stepladder**





- on ale and

- Lightweight and compact slim design
- Two large platforms that allow the user to comfortably reach 9 ft from the lower platform and 10 ft from the higher platform
- Multi-use top to hold paint, tools and supplies for any job
- Ladder height is 5.5 ft that allows user to reach just as high as a 6 ft step ladder
- Available in Type 1A 300lb. Duty Rating Fiberglass or Aluminum





- 300lbs duty rating for sturdy climbing, ideal for any project
- Also available with Nonconductive fiberglass construction
- ANSI and OSHA rated



### **Compact Stepladder**





#### **SPECIFICATIONS**

Model No.	Top Platform Height	Maximum Reach	Compact Ladder Height	Comparable Stepladder Height	Approx. Weight
C6204	1' 11"	8'	3.5'	4'	10
C6205	2' 10"	9'	4.5'	5'	15
C6206	3' 9"	10'	5.5'	6'	18
C6207	4' 8"	11'	6.5'	7'	20
C6208 (Coming Soon)	5' 8"	12'	7.5'	8'	22







### **Questions?**















Compact Stepladder



### **AGENDA**







### **Creating a Culture of Safety**

- "Work Like You Would Walk Traffic Side"
- The "Human Condition" and "Crossover"



### **Ladder Safety**

- Inspection Process
- Safe Use



### **New Ladders**









# WANT TO SEE MORE? DOWLOAD FULL CATALOGS TO YOUR COMPUTER OR iPAD

WERNER LADDERS & FALL PROTECTION

www.wernerco.com/wernercatalogs

**KNAACK** 

www.wernerco.com/knaackcatalogs

WEATHERGUARD

www.wernerco.com/weatherguardcatalogs