

Catwalk / Substructure / Support Tower Safety



Read manual before installing or using product. Failure to follow instructions and safety precautions in manual can result in death or serious injury. Keep manual in a safe location for future reference.

General Safety Practices



On safety decals, this symbol and the signal words Danger, Warning, Caution and Notice draw your attention to important instructions regarding safety.

They indicate potential hazards and levels of intensity.



RED - DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



ORANGE - WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



YELLOW - CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



BLUE - NOTICE alerts you to practices unrelated to personal injury, such as messages related to property damage.

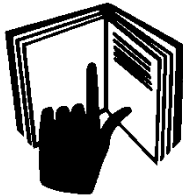
IMPORTANT: To prevent serious injury or death to you or your family, it is essential that safety decals are clearly visible, in good condition, and applied to the appropriate equipment.

FOLLOW MANUAL & SAFETY DECAL MESSAGES

Carefully read this manual and all safety decals on your

equipment. Safety decals must be kept in good condition. Replace missing or damaged safety decals by contacting Sukup

Manufacturing Co. via mail at PO Box 677, Sheffield, Iowa USA, 50475; by phone at 641-892-4222; or by e-mail at info@sukup.com.



It is the responsibility of the owner/operator to know what specific requirements, precautions, and work hazards exist. It is also the responsibility of the owner/operator to inform anyone operating or working in the area of this equipment of hazards and safety precautions that need to be taken to avoid personal injury or death. Always keep children away from bins and vehicles with flowing grain.

Make no unauthorized modifications to machine. Modifications may endanger function and/or safety of unit. Keep unit in good working condition. Keep shields in place. Replace worn or missing shields free of charge by contacting Sukup Manufacturing Co.

GRAIN BIN SAFETY

Owners/operators are responsible for developing site-specific confined space entry procedures. OSHA's confined space entry procedures (29CFR 1910.146) can be found at www.osha.gov.

If you must enter bin for repair or maintenance:

- Use a safety harness, safety line and respirator
- Station another person outside of bin
- Avoid the center of the bin
- Wear appropriate personal protective equipment
- Keep clear of all augers and moving parts



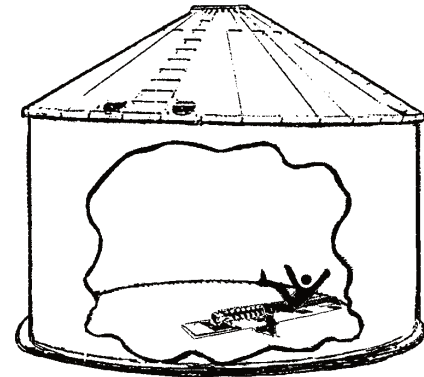
DANGER: Never enter bin unless all power is locked out and another person is present.



Rotating augers can kill or dismember!

NEVER enter bin when augers are running!

When bin is nearly empty, sweep auger will travel at an increasingly fast speed. Keep away from sweep and sump augers to avoid entanglement.



Failure to follow precautions above will result in death or serious injury.



DANGER: Flowing grain may trap and suffocate. If you enter a bin of flowing grain you can be completely submerged in grain in about 8 seconds.

Failure to heed this warning will result in death or serious injury.



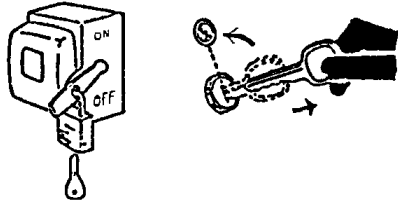
Catwalk / Substructure / Support Tower Safety

To avoid electric shock or electrocution, all equipment must be properly wired and grounded according to electrical codes. Have unit wired by qualified electrician.



Have an electrician install a main power disconnect switch capable of being locked only in OFF position. Mark disconnect clearly as to equipment it operates. Always lock out main power disconnect switch whenever equipment is not in use.

Service Disconnect



WARNING: When servicing equipment, never enter bin unless all power is locked out and another person is present. Always LOCK OUT all power and always check with voltage meter before servicing.

Failure to do so could result in death or serious injury.

Owners/operators are responsible for developing site-specific Lockout/Tagout procedures based on equipment at their work site. See OSHA's typical minimal lockout procedures (29CFR 1910.147 App A) at www.osha.gov.

WARNING: KEEP CLEAR OF ALL MOVING PARTS.

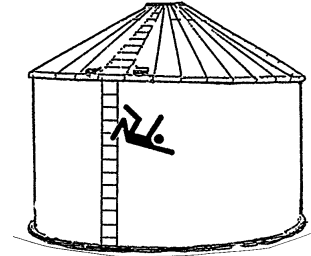
Keep people (ESPECIALLY YOUTH) away from equipment, particularly during operation.

Keep away from all moving parts. Keep all shields in place. **SHUT OFF AND LOCK OUT** all power before servicing.



Failure to follow precautions above could result in death or serious injury.

WARNING: Metal is slippery when wet. To avoid falls, never carry items if climbing on bin. Maintain secure hand and foothold if climbing on bin. Failure to do so could result in death or serious injury.



CAUTION: Metal edges are sharp. To avoid injury, wear protective clothing and handle equipment and parts with care.

Failure to do so may result in minor or moderate injury.

PERSONAL PROTECTIVE EQUIPMENT



Owners/Operators are responsible for developing site-specific personal protective equipment standards. OSHA's personal protective equipment standards (29CFR 1910.132) can be found at www.osha.gov.

EMERGENCIES – KNOW WHAT TO DO

Have emergency numbers and written directions to work site readily available in case of emergency. An area for emergency phone numbers to be recorded is provided below and at end of this manual.

Ambulance • Fire • Police: 9-1-1

Bin rescue team: _____

Emergency medical squad: _____

Address of work site: _____

Directions to work site: _____

Catwalk Safety Decals

Catwalk Safety Decals

It is essential that the following safety decals be mounted on your catwalk to warn and remind of potential hazards. Decals must be mounted after erection. They must be replaced if they become damaged or unreadable.

If needed, order replacement safety decals free of charge by contacting Sukup Manufacturing Co. by mail at PO Box 677, Sheffield, Iowa 50475; by phone at 641-892-4222; or by e-mail at info@sukup.com. Please specify decal number.

Ensure all safety decals are applied after catwalk is erected. Mount decals to flat surface of catwalk so they are visible to anyone using catwalk. **NOTE:** These decals must never be removed, tampered with, painted over or obscured in any way. If decal replacement becomes necessary, use locations shown below. Make sure location for decal is free of dirt and other substances. Remove backing from decal and place in proper position.

Decal L0113 – WARNING: Falling from heights may cause serious injury or death.



Decal L01137 – WARNING: Catwalk walkway load limit 300 lbs. Collapse can cause serious injury or death.

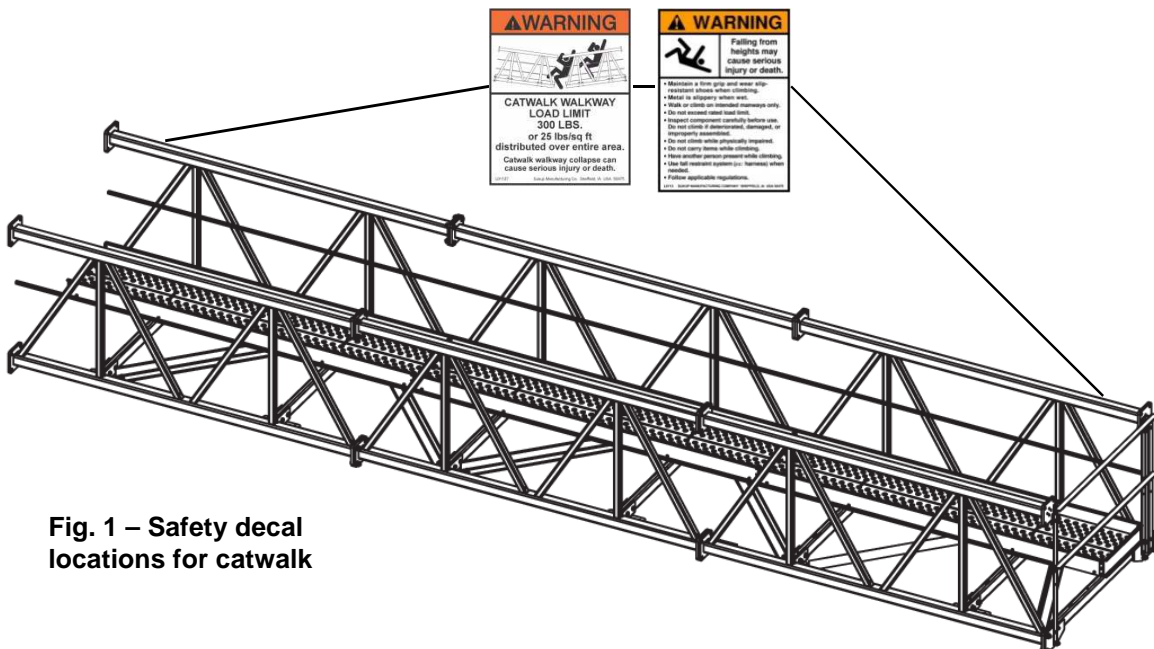


Fig. 1 – Safety decal locations for catwalk

Support Tower Safety Decals

Support Tower Safety Decals

It is essential that the following safety decals be mounted on your support tower to warn and remind of potential hazards. Decals must be mounted after erection. They must be replaced if they become damaged or unreadable.

If needed, order replacement safety decals free of charge by contacting Sukup Manufacturing Co. by mail at PO Box 677, Sheffield, Iowa 50475; by phone at 641-892-4222; or by e-mail at info@sukup.com. Please specify decal number. Use decal placement drawings on next two pages to determine location of decals if replacement is necessary.

Ensure all safety decals are applied after tower is erected. Mount decals to flat surface of tower leg so they are visible to anyone going up the stairs.

NOTE: These decals must never be removed, tampered with, painted over or obscured in any way. If decal replacement becomes necessary, use locations below and on following pages. Make sure location for decal is free of dirt and other substances. Remove backing from decal and place in proper position.

Decal L0113 – WARNING: Falling from heights may cause serious injury or death.



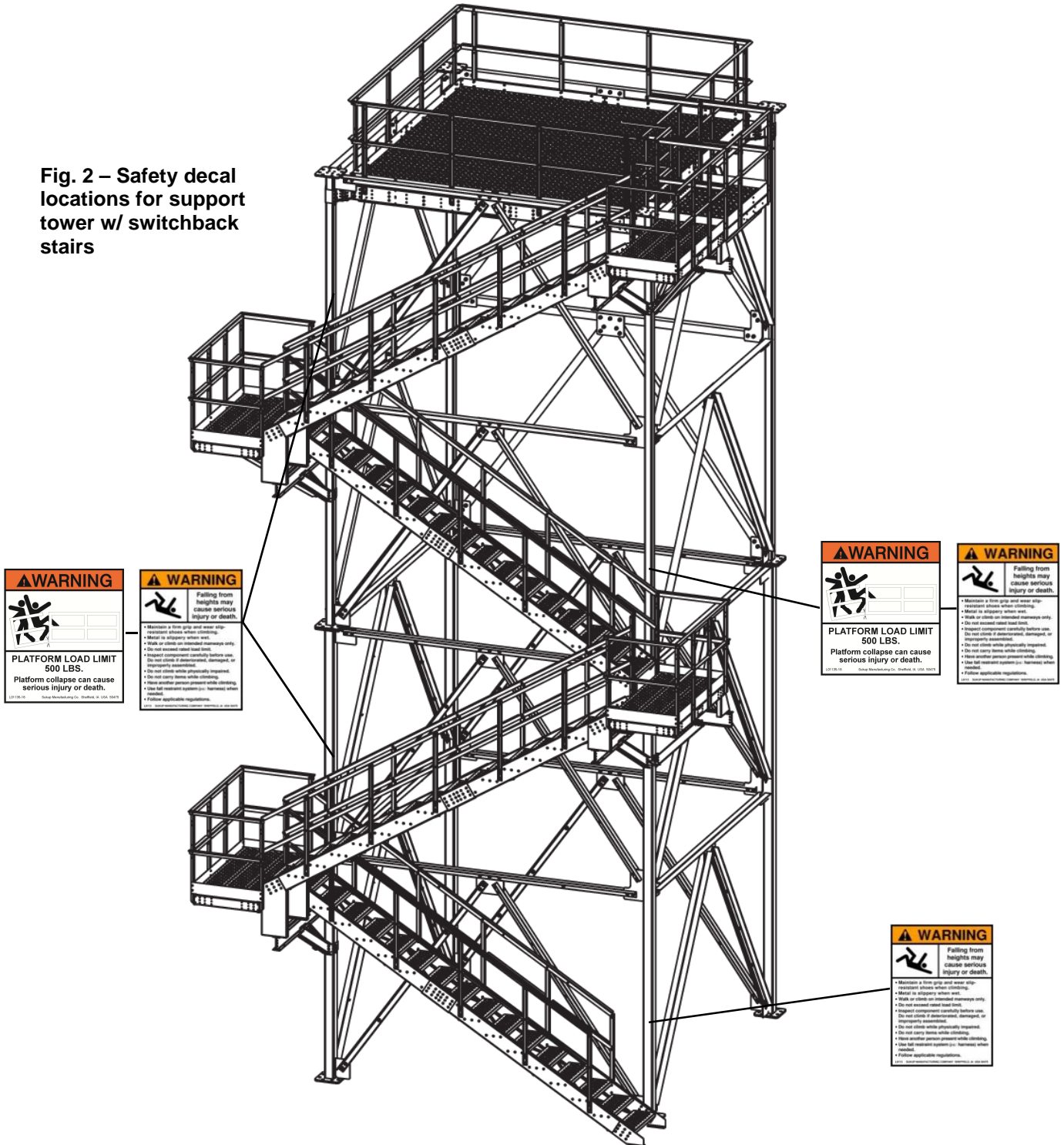
Decal L01135 – WARNING: Platform collapse can cause serious injury or death.



Support Tower Safety Decals Placement

For decal locations on switchback stairs, see drawing below. For locations on wraparound stairs, see drawing on next page.

Fig. 2 – Safety decal locations for support tower w/ switchback stairs



Support Tower Safety Decals

See drawing below for location of decals on tower with wraparound stairs.

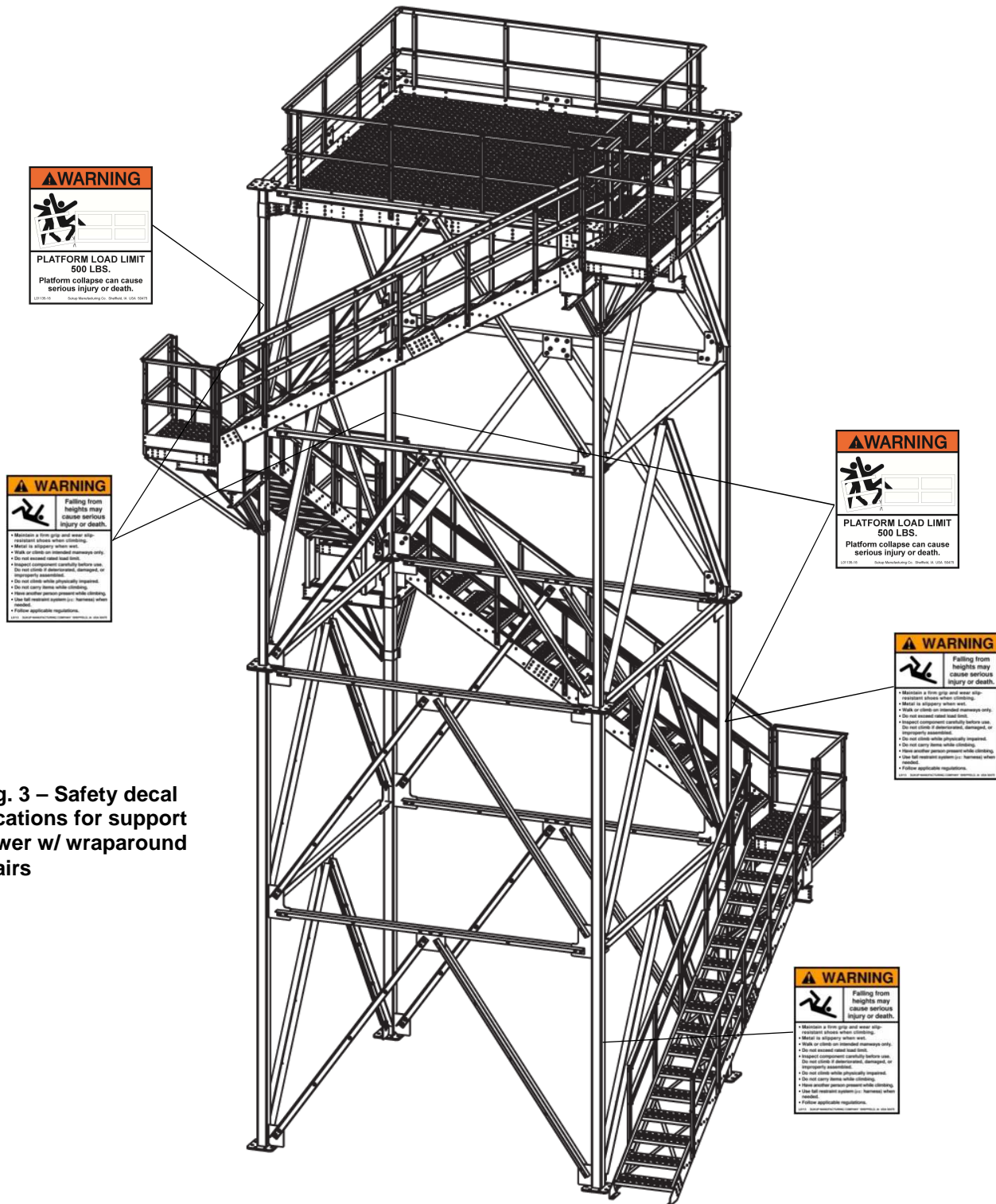


Fig. 3 – Safety decal locations for support tower w/ wraparound stairs

Support Tower with Ladder Safety Decals Placement

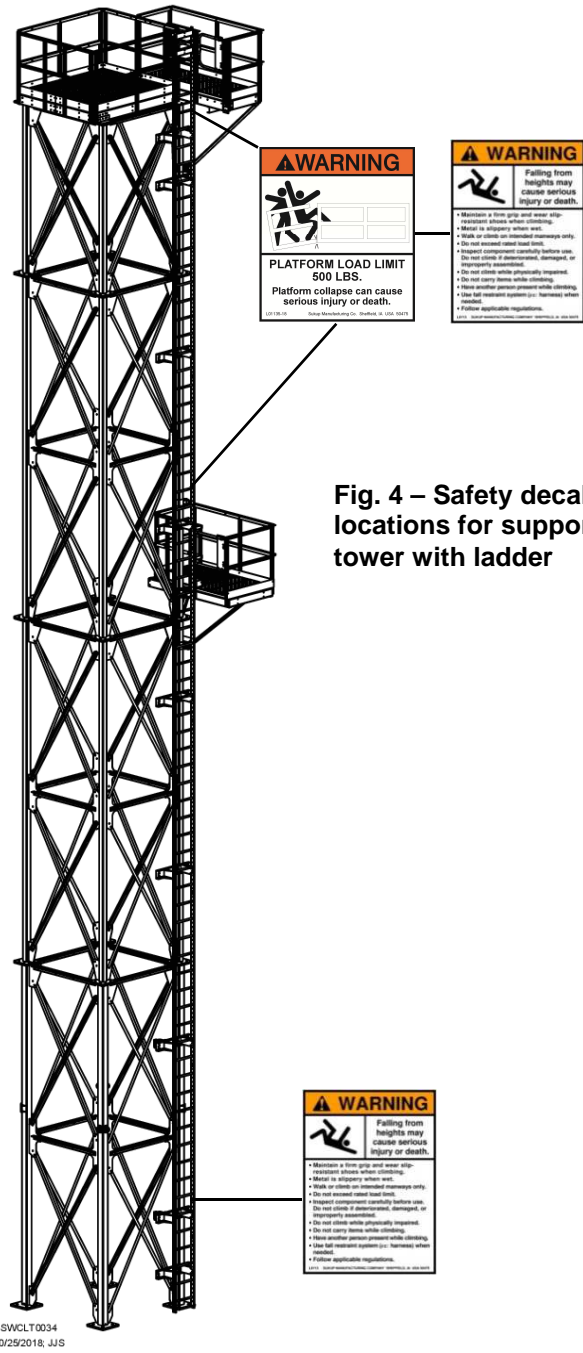


Fig. 4 – Safety decal locations for support tower with ladder

Hopper Bin Substructure Safety Decals

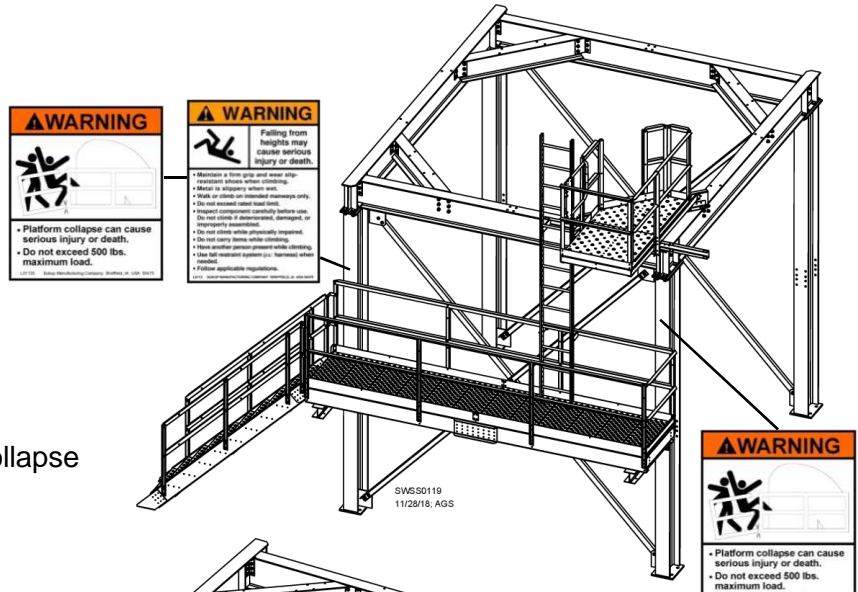
Hopper Bin Substructure Safety Decals

It is essential that the following safety decals be mounted on your hopper bin substructure to warn and remind of potential hazards. Decals must be mounted after erection. They must be replaced if they become damaged or unreadable.

If needed, order replacement safety decals free of charge by contacting Sukup Manufacturing Co. by mail at PO Box 677, Sheffield, Iowa 50475; by phone at 641-892-4222; or by e-mail at info@sukup.com. Please specify decal number. See Fig. 1 for decal placement.

Ensure all safety decals are applied after substructure is erected. Mount decals to flat surfaces so they are visible to anyone accessing substructure. **NOTE:** These decals must never be removed, tampered with, painted over or obscured in any way. If decal replacement becomes necessary, use locations shown below. Make sure location for decal is free of dirt and other substances. Remove backing from decal and place in proper position.

Decal L0113 – WARNING: Falling from heights may cause serious injury or death.



Decal L01135 – WARNING: Platform collapse can cause serious injury or death.

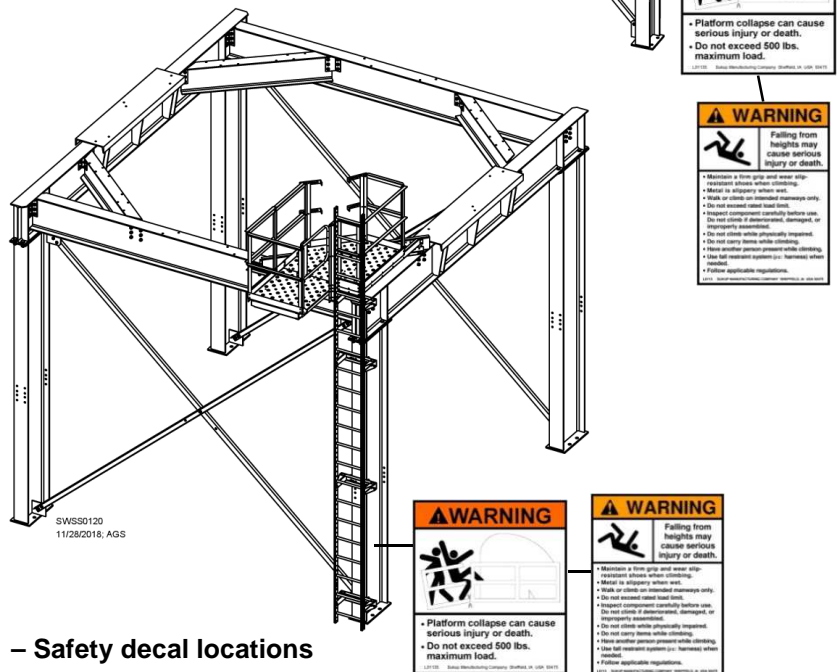


Fig. 1 – Safety decal locations

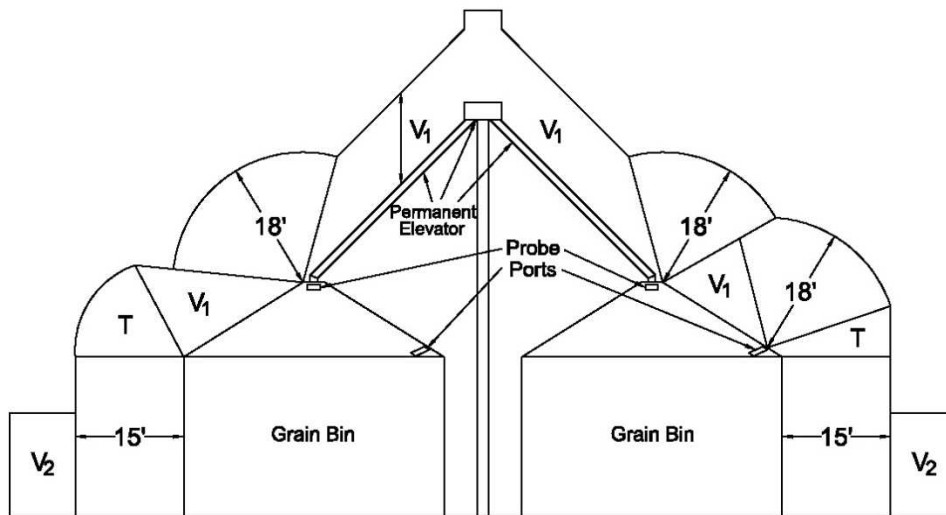
Wire Clearances

Electrical Wire Clearances

Check with your local electric utility, which may be able to provide assistance in planning a safe environment for everyone working around grain bins. State codes may vary regarding specific clearances for electrical lines around grain bins. Be certain your local county REC is in accordance with your state's regulations. **To prevent overhead safety issues, bury electrical lines.**

The American National Standards Institute (ANSI) provides clearance envelopes for Grain Bins filled by permanently installed augers, conveyors, or elevators in (ANSI) C2 2007 "National Electrical Safety Code," Rule 234, page 120.

NOTE: An electric utility company may refuse to provide electrical service to any grain bin built near an existing electric line that does not provide the clearance required by the American National Standards Institute (ANSI) and the National Electrical Safety Code.



V_1 = Vertical clearance above a building required by Rule 234C (Table 234-1)

V_2 = Vertical clearance above land required by Rule 232

T = Transition clearance

Fig. 2 – Electrical wire clearances

Construction Safety

On catwalk, substructure or support tower construction sites, carelessness and/or error may result in serious injury or even death. Hazard control and accident prevention are dependent upon awareness, caution and proper training of personnel involved in construction. Be certain all crew members are properly trained and thoroughly familiar with all aspects of structure construction and this manual.

Listed below are items construction crew members should be knowledgeable of to minimize risk of injury to personnel and damage to equipment. **NOTE:** Topics and items below are examples taken from a broad list of OSHA's Safety and Health Regulations for Construction. See www.osha.gov. Generally, these are common requirements/items necessary on construction sites.

- **Personal Protective Equipment**
 - Head Protection
 - Hearing Protection
 - Eye and Face Protection
 - Steel-Toed Boots/Shoes
 - Gloves
- **Concrete Construction**
- **Tools – Hand and Power**
- **Welding and Cutting Tools**
- **Electrical Systems**
- **Ladders**
- **Scaffolds and Working Platforms**
- **Fall Protection**
- **Steel Erection**
 - Cranes
- **Motorized Equipment**
 - Trenchers
 - Forklifts
 - Skid Steers
 - Telehandlers
 - Boom Lifts
- **Cranes and Hoists**
- **Signs and Signals for Use of Motorized Equipment**

Catwalk, Substructure or Support Tower Construction Safety Guidelines

- Read and fully understand operating procedures for your lifting equipment.
- Loads can shift in transit and may shift again in unloading. Keep hands and feet clear from beneath materials.
- Structure should be braced at all times before raising next part. Structure should be secure with temporary or permanent supports before release of lifting equipment or at end of day or work period. Erection contractor is responsible for all temporary bracing.
- All joints should be connected and all bolts in place before release.
- Hoist equipment should be kept clear of power lines.
- Power tools and cords should be kept in good repair and, where required, have a three-wire ground system. Each tool should be inspected periodically.
- Never use power tools while standing on wet ground.
- Workers should wear safety glasses and/or face shields when drilling, grinding or sawing.
- Use approved tie-offs, netting, rails and fall protection when working at potential dangerous heights.

When constructing a catwalk, substructure or support tower, erectors/contractors are responsible for developing site-specific construction guidelines and procedures based on equipment, conditions and situations at their individual location. OSHA's Safety and Health Regulations for Construction (29CFR1926) can be obtained at www.osha.gov.

Fall Restraints & Arrest Systems

Fall Restraints & Arrest Systems

When working on a catwalk, substructure or support tower at a height where fall hazards exist, always use a fall restraint or fall arrest system. Inspect fall restraint and arrest components before each use for wear, damage and other deterioration. Remove defective components from service according to manufacturer's instructions. Failure to heed this warning may cause serious injury or death.

A **fall restraint system** consists of a body belt or harness, lanyard and anchor. The system is arranged so that the individual is prevented from falling. Fall restraint systems should be used in accordance with the manufacturer's recommendations and instructions.

A **fall arrest system** consists of a harness, lanyard, and anchor. The system stops a fall within specified parameters. Fall arrest systems should be used in accordance with manufacturer's recommendations and instructions.

Lifelines and safety harnesses are used with both systems. A **lifeline** is a component consisting of a flexible line (rope or cable) for connection to an anchorage at one end to hang vertically (vertical lifeline), or for connection to anchorages at both ends to stretch horizontally (horizontal lifeline). Lifelines also serve as a means for connecting other components of a fall protection system. A **safety harness** has straps that wrap around an individual in a manner that will distribute fall arrest forces over thighs, pelvis, waist, chest, and shoulders with a means of attaching it to other components of a fall protection system. Follow manufacturer's instructions when using a lifeline and safety harness.



Individuals who work on a catwalk, substructure or support tower at heights where fall hazards exist should be equipped with a lifeline and harness. Have at least two other workers on-site. A single worker cannot go for help and give first aid simultaneously.

Lifeline should be connected to an OSHA-approved tie-off point.

Sharp Edges & Obstacles



When working on or near a metal structure, remember that metal edges are sharp. Care must be taken when handling or working near various pieces of the structure. To avoid injuries, wear protective clothing and handle equipment and parts with care. An excellent safety practice is to keep sites clear of scrap iron and other foreign

material that may get covered up by snow or tall grass. Any item or debris left near structure may interfere with safe, unobstructed movement around it.

Falls & Obstructions

Falls from structures of any height can cause injury or death. Ladders used in catwalk, substructure or support tower construction can become very slippery or icy in inclement weather. Maintain a secure handhold and foothold when climbing. Metal is slippery when wet. Never carry items while climbing. Also, be certain no obstacles are in front of ladder.

Slippery metal, broken or loose ladder rungs and loose handholds can be very dangerous. Repair loose ladder rungs and handholds as soon as they are discovered. Follow maintenance guidelines listed at back of operation manual.

WARNING



- Metal is very slippery when wet, maintain secure hand and foot hold when climbing.
- To avoid falls, never carry items while climbing.
- Always have another person present while climbing.
- Use safety harness and safety line where danger of falling exists.
- Be certain all ladders, stairs, handrails, cages and working surfaces are secure and in good condition.

Failure to heed these warnings may cause serious injury or death.

L0164 Sukup Manufacturing Company Sheffield, IA USA 50475