



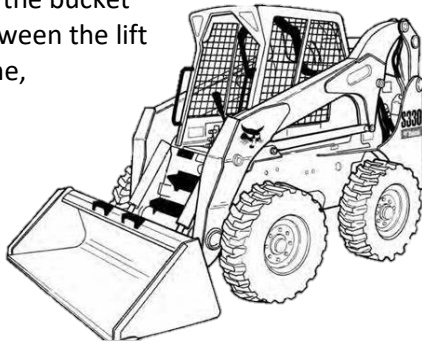
HAZARD ALERT

SKID-STEER LOADER

KYSAFE urges employers and employees to be aware of the dangers associated with Skid-Steer Loaders. Preventing injuries and deaths while operating and working near skid-steer loaders has always been a challenge to control. Unfortunately, accidents while using these machines can be deadly.

According to the National Traumatic Occupational Fatalities (NTOF) surveillance system, the major types of accidents involving skid-steers are:

- Pinning between the bucket and frame or between the lift arm and the frame,
- Crushing,
- Rollovers
- Pinning between the loader and another object and
- Run overs.



NIOSH studies suggest that employers, supervisors, and workers may not fully appreciate the potential hazards associated with operating or working near skid-steer loaders and they may not follow safe work procedures for controlling these hazards.

Risk of Injury - Improper operation of skid-steer loaders can put workers at serious risk. These risks are similar to those associated with other types of mobile construction machinery. However, skid-steer loaders have features that expose workers to additional injury risks. Most skid-steer loaders are configured with the operator's seat and controls located between two lift arms and in front of the lift-arm pivot points. The operator enters and exits through the front of the machine by stepping over the lowered lift arm and its attachment. This front-entry configuration places the operator in the zone of lift-arm movement with the potential of being caught between the machine frame and the lift arm or attachment if controls are inadvertently activated during entry or exit.

Control Interlocks—To prevent unintentional activation of controls, skid-steer loaders are equipped with

interlocked control systems. These interlocked control systems require that a safety device such as a seat belt be secured or restraint bar be properly positioned before the operational controls can function. This ensures the operator is safely seated away from the zone of lift-arm movement before the machine can be operated.

Rollover Protective Structures and Operator

Restraints—Skid-steer loaders are also equipped with rollover protective structures (ROPS) and seat belts to keep the operator inside the machine during rollover incidents. Falling object protective structures (FOPS) are provided to protect the operator from being struck by falling material.

Side Screens—Metal or glass side screens integrated with the ROPS prevent the operator from leaning or reaching out of the operator's compartment and coming into contact with a moving lift arm. Side screens may also protect operators from being injured by debris or objects entering the operator's compartment.

STANDARDS AND REGULATIONS—

OSHA Regulations -The current Occupational Safety and Health Administration (OSHA) regulations for the construction industry do not specifically address skid-steer loaders. However CFR 29 1926.20(b)(4) requires employers to permit only those employees qualified by training or experience to operate equipment and machinery.

SAE International Standard - SAE International has developed a Surface Vehicle Standard that addresses skid-steer loader safety: J1388 [SAE 1985]. This document contains design guidelines that address such hazards as machine rollovers and being caught between a lift arm and frame, or the attachment and frame.

RECOMMENDATIONS

KYSAFE recommends that employers and workers comply with OSHA regulations and current SAE J1388 guidelines. Maintain equipment in accordance with manufacturer's specifications and requirements.

Take the following measures to prevent injury when operating or working near skid-steer loaders:

- Use equipment with the following safety devices provided by manufacturers:
 - Lift-arm support devices
 - Control interlocks
 - Seat belts
 - ROPS/FOPS
 - Side screens
- Follow safe operating procedures.
- Follow safe mounting and dismounting procedures.
- Follow proper maintenance procedures.
- Train workers to read and follow the manufacturer's procedures for operating and servicing skid-steer loaders [AEM 2006].

Operating Safely

Ensure employees understand all the manufacturer's warnings and instructions before operating a skid-steer loader. Train workers to use the following safe operating procedures:

- Read and understand all safety and operating procedures outlined in the operator's manual, service manual, and safety decals.
- Stay seated when operating the loader controls.
- Operate with the seat belt snugly fastened and the restraint bar properly positioned.
- Keep hands, arms, legs, and head inside the operator's compartment while operating the loader.
- Plan to load, unload, and turn on level ground, when possible.
- Travel and turn with the bucket in the lowest position possible. Carry the load low.
- Never exceed the manufacturer's recommended load capacity for the machine.
- Operate on stable surfaces only. Avoid slippery surfaces.
- Avoid traveling across slopes—travel straight up or down slopes with the heavy end of the machine pointed up hill.
- Always look in the direction of travel.
- Keep bystanders away from the work area.
- NEVER modify or bypass safety devices.
- Never carry riders.
- Be aware that each machine may operate differently.
- Enter and exit when the bucket or other attachment is flat on the ground or when the lift-arm support

device is in place. Use the lift-arm support device supplied or recommended by the manufacturer.

- When entering the loader, face the seat and keep a three-point contact with handholds and steps.
- Never use foot or hand controls as steps or handholds.
- Keep all walking and working surfaces clean and clear of debris.
- Before leaving the operator's seat:
 - lower the bucket or other attachment flat on the ground,
 - set the parking brake,
 - turn off the engine.
- If unable to exit through the primary opening for entering the machine, use the emergency exit located at the back of the operator's compartment or as specified by the manufacturer.

Maintaining the Loader in Safe Operating Condition

- Follow the manufacturer's instructions for maintaining the loader.
- Keep the foot controls and the operator's compartment free of mud, ice, snow, and debris.
- Regularly inspect and maintain the following safety devices:
 - Control interlocks
 - Seat belts
 - Restraint bars
 - Side screens
 - Rollover protective structures (ROPS)
 - Falling object protective structures (FOPS)
- NEVER modify or bypass safety devices.
- Before servicing the loader:
 - lower the bucket or other attachment flat on the ground,
 - set the parking brake,
 - turn off the engine,
 - remove the key from the switch.
- If the machine cannot be serviced with the bucket on the ground, remove the bucket or attachment and use the lift-arm support device recommended or provided by the manufacturer. If the machine is not equipped with a lift-arm support device or it is damaged, contact the equipment dealer or manufacturer's representative for help in selecting a proper support device or for replacement parts.

