**Skid-Steer Loader Operation in an Agricultural Setting**

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[Name of Farm]

**Disclaimer:** The following Skid-Steer Loader Operation written program is provided only as a template guide to assist employers and employees in providing a safe working environment for skid steer operators. It is not intended to supersede the requirements of the standard. An employer should review the standard for particular requirements which are applicable to their individual situation and make adjustments to this program that are specific to their business. An employer will need to add information relevant to their particular facilities in order to develop an effective, comprehensive program.

**SKID-STEER LOADER OPERATION WRITTEN PROGRAM**

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[Name of Farm]

**I. PURPOSE**

This program will help to reduce the incidence of fatal or serious crushed-by, struck-by, caught in-between, and rollover hazards during skid-steer loader operation, servicing and maintenance. The purpose of this written Skid-Steer Loader Operation program is to ensure that employers and employees know about how to protect themselves from these injuries. The program ensures that:

A. All skid-steer loaders on the farm are properly equipped with working safety features.

B. Servicing and maintenance of skid-steer loaders is performed under clear protocols for injury prevention.

C. Employees are trained in safe skid-steer loader operating procedures.

D. Identifies the job title who has the responsibility for maintaining the program, updating equipment inventory inspections, conduct training, etc.

**Note:** A copy of this program will be made available to any employee upon request.

**II. AUTHORITY AND REFERENCE**

There is no Occupational Safety and Health Administration (OSHA) standard for skid steer equipment.

“While OSHA does not have a standard requiring employers to use control interlock systems or seatbelts on skid-steer loaders, it is important for employers to understand that under the General Duty Clause of the OSH Act (section 5(a)(1)), employers must provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm. OSHA may cite an employer for a violation under the General Duty Clause if recognized hazards exist and the employer does not take feasible, effective measures to abate such hazards. See OSHA’s Safety and Health Information Bulletin 01-11-2009 Hazards Associated with Operating Skid-Steer Loaders with Bypassed and/or Improperly Maintained Safety Devices. <https://www.osha.gov/dts/shib/shib011209.html>

**III. DEFINITIONS**

Skid-steer loaders are manufactured with safety features to prevent unexpected or inadvertent movement of the loader arm and hydraulics when the operator is not in the cab. However, these safety features can be bypassed, defeated or improperly maintained which can result in serious injury or death to the operator and/or other employees working on or around the equipment.

**IV. APPLICATION**

This program applies to the use of any skid-steer loader which is known to be present in the workplace in such a manner that employees may be exposed under normal conditions of use or in a foreseeable emergency.

**V. RESPONSIBILITY FOR COMPLIANCE**

A. The administration of this program will be the responsibility of

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

(person/position designated)

The administrative responsibilities of this individual/position will include:

1. Identification of the employees to be included in the Skid-Steer Loader Operation program.

2. Inspection and maintenance of all skid-steer loader safety equipment maintained to the original manufacturers’ standards.

3. Coordination and supervision of employee training.

4. Coordination and supervision of the facility's Skid-Steer Loader Operation program.

5. Coordination and supervision of required recordkeeping.

6. Periodic evaluation of the overall program.

B. Employees are responsible for following all safe work practices and using proper precautions required by the guidelines in this program.

VI. SKID-STEER LOADER SAFETY GUIDELINES

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(person/position designated)

is responsible for establishing a routine maintenance and inspection program in accordance with the manufacturer's recommendations for each skid-steer loader located on the farm. He/she will protect employees from operating skid-steer loaders without properly functioning safety features as documented in the manufacturer’s equipment manual.

B. Common safety features of a skid-steer loader include:

1. Seatbelt for operator restraint (helps prevent the operator from being thrown about inside or falling out of the skid-steer loader).

2. Falling Object Protective Structure (FOPS) (to protect the operator from falling objects).

3. Roll-Over Protective Structure (ROPS) (to protect the operator from injury due to rollovers)

4. Control Interlock System or pull-down armrest (or seat bar) that may be used to interlock the machine control systems (activates a safety interlock system that is intended to prevent inadvertent movement of the machine’s controls when the operator is not in the proper operating position, i.e., seated).

5. Side-screens eliminate the risk of the operator reaching out of the cab and becoming caught between lift arms and the skid-steer frame.

6. Hydraulic cylinder lift arm lockout devices may be engaged from inside the operator’s cab or may be engaged outside the cab at the hydraulic cylinder. When the boom is in the up position for any repair or maintenance, the lift arm hydraulic cylinder lockout device must be engaged.

7. Back-up alarms and beacon lights may be standard equipment on some skid-steers. If the machine originally came with these devices, they will be kept operational at all times.

**VII. PUBLIC ROAD SKID-STEER LOADER OPERATION GUIDELINES**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(person/position designated)

is responsible for inspecting and evaluating compliance of all SMV, lights and dimensions for all skid-steer loaders located on the farm which will be driven on public highways. He/she will protect employees from operating skid-steer loaders without the required SMV, lights and dimensions through the installation of the required items.

1. 29 CFR 1910.145(d)(10) (non-mandatory)
2. Slow-moving vehicle emblem. This emblem illustrated in 29 CFR 1910.145(d)(10) figure J-7 consists of a fluorescent yellow-orange triangle with a dark red reflective border. The yellow-orange fluorescent triangle is a highly visible color for daylight exposure. The reflective border defines the shape of the fluorescent color in daylight and creates a hollow red triangle in the path of motor vehicle headlights at night.
3. NYS Vehicle and Traffic Law 375-36 (b)

1. Farm machinery and implements of husbandry and other machinery including road construction and maintenance machinery designed to operate at twenty five miles per hour or less, traveling on a public highway during day or night, whether self-propelled or used in combination, shall each separately display a slow-moving vehicle emblem as developed and designed by the American Society of Engineers.

2. Slow Moving Vehicle Emblem Specifications are defined by Part 68 of the Commissioners’ Rules and Regulations.

3. Limited to vehicles traveling at speeds of 25 mph or less.

4. Should be mounted, point up, perpendicular to the direction of travel, mounted in the center of the vehicle, un-obscured and 2 to 6 feet above the ground, measured at the bottom edge.

5. Should be mechanically fastened (hardware or adhesives), sturdily supported and secured.

6. If the emblem can’t be centered, mount left of center line but not over or beyond the left edge of the vehicle.

7. If the vehicle bearing the Slow Moving Vehicle Emblem is being transported by another vehicle at a speed of greater than 25 mph, the Slow Moving Vehicle Emblem must be covered.

8. The Slow Moving Vehicle Emblem must be kept clean (Visible from all distances 600 feet to 100 feet away – day light / high beams).

9. Illegal to use in any other manner (driveway markers etc).

10. Note: The use of the Slow Moving Vehicle Emblem shall not replace such warning devices as tail lamps, reflectors, flashing lights warning flags or flares and the Slow Moving Vehicle Emblem shall not be used as a clearance marker for wide loads or equipment.

D. Lighting Requirements on Agricultural Equipment. Agricultural Vehicles and Equipment must be equipped with lamps of the type approved by the Commissioner which are lighted and are in good working order when such equipment is operated, driven, or parked on any public highway or street during the period of one half hour after sunset to one half hour before sunrise and during such times that visibility for a distance of one thousand feet ahead or behind such agricultural equipment is not clear. At other times, no lighting is required on agricultural equipment.

1. NY Part 43.9 of the Commissioners’ Rules and Regulations. Self-propelled agricultural equipment shall be equipped in accordance with the following:

a. Head lamps: two, white located front –same level as far apart as practicable

b. Tail lamps: one, red located rear, as far to left as practicable

c. Combined hazard: two, amber located at least (42 inches high)

d. Warning and turn signal lamps: located same level as far apart as practicable, visible front and rear.

e. Rear reflectors: two, red located rear, same level as far apart as practicable

E. Dimensional Requirements

1. Vehicles and implements or combinations thereof, not over 12 feet in width and used solely for farm purposes are permitted on public highways, except upon any highway at any time on which operation is prohibited by the department of transportation. (Thruway, Interstate Highways and other highways as deemed by the Commissioner).

Such vehicles are permitted when meeting the following requirements.

a. The vehicle and implement or combination thereof is operated during the period from one half hour before sunrise to one-half hour after sunset.

b. Red or orange fluorescent flags not smaller than 18 inches square, and reflectors are placed on the extreme corners of the load .

c. Two flashing amber lights in compliance with the regulations prescribed by the commissioner of transportation are attached to the rear of the load or, if the vehicle hauling such implement is equipped with hazard lights which are visible from the rear of the load, such lights are flashing.

d. If the vehicle or load extends beyond the centerline of a highway or if the vehicle is being operated during any time when, due to rain, sleet, snow, hail, fog, insufficient light, or any other reason, visibility for a distance of one thousand feet ahead is not clear, the vehicle is preceded by an escort vehicle which is equipped with a warning sign and flashing lights in compliance with regulations prescribed by the commissioner of transportation. (Flashing lights to be minimum 6 inches in diameter – maximum 9 inches in diameter - mounted on the extreme corners of the load, between 5 feet and 7 feet above the ground .– amber lens – with a white bulb, not more than 50 candle power, visible for a distance of at least 1000 feet. Over width sign to be black letters on yellow back ground, stating “OVERSIZED LOAD”, sign to be 7 feet wide, 18 inches high with 10 inch lettering and a brush stroke of 1.41 inches).

e. Agricultural vehicles and implements between 12 feet and 17 feet in width are not permitted on highways as prohibited by the department of transportation. (Thruway, Interstate Highways any other highways deemed by the Commissioner).

2. Racks for carrying hay, straw or unthreshed grain may have a width of ten feet at the top of the rack. In no case shall the width at the base of the rack exceed one hundred two inches nor shall the width of the rack exceed one hundred two inches at any portion thereof while on any qualifying highway.

3. The height of a vehicle from the underside of the tire to the top of the vehicle, inclusive of load, shall not be more than thirteen and one-half feet. Any damages to highways, bridges, or highway structures resulting from a vehicle greater than thirteen feet in height shall be compensated for by the owner and the operator of such vehicle.

F. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(person/position designated)

is responsible for conducting annual inspections of skid-steer loader SMV, lighting and dimensional requirements where needed and to include new information regarding standards as it is received. If new skid-steer loaders are identified on the farm,

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(person/position designated)

must inspect the SMV, lighting and dimensional requirements and make appropriate changes to meet the standards.

G. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(person/position designated)

is responsible for conducting annual inspections of skid-steer loader safety features based on the manufacturers equipment owner’s manual and to include new information regarding standards as it is received. If new skid-steer loaders are identified on the farm, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(person/position designated)

must inspect the safety features, and make appropriate changes to meet the standards.

**VII. SAFETY PRACTICES**

A. The following practices will minimize hazardous situations associated with operating and maintaining skid-steer loaders:

1. Read and understand the operator's manual before using the piece of equipment; follow the manufacturer's recommendations and specifications when operating it.

2. Lower the bucket or attachment so that it is flat on the ground when finished.

3. Do not leave the operator's seat while the engine is on. Never attempt to activate the controls unless properly seated with the seatbelt fastened and the seat bar (if equipped) lowered.

4. Keep all body parts inside the cab while operating a skid-steer loader.

5. Never modify, bypass, disable, or override safety systems.

6. Never permit riders on the skid-steer loader, in the bucket or attachment, or in the operator's compartment.

7. Always keep bystanders a safe distance away from the work area.

8. Inspect the skid-steer loader to ensure that all safety systems are functioning properly prior to operating the equipment.

9. Never attempt maintenance or other work while lift arms or attachments are raised without using an approved lift arm support device.

10. Replace protective guards and shields after repairs or service.

11. Train personnel on the proper inspection, use, maintenance, and repair of skid-steer loaders according to the manufacturer's instructions. Train supervisory personnel to identify hazards, such as safety systems that have been bypassed, disabled, or that require maintenance.

**VIII. EMPLOYEE TRAINING**

A. Prior to starting work with skid-steer loaders on the farm, each employee will attend a Skid-Steer Loader Instruction Training Session where they will receive information on the following topics making instructions specific to each skid-steer loader:

1. No riders anywhere: not in the bucket and not in the operator’s lap (e.g. toddlers)

2. Learn the blind spots of operation: bystanders, buildings and equipment may be in blind spots

3. Never swing, lift, or move a load over top of anyone.

4. Position yourself to avoid bumping control levers.

5. Wear snug fitting clothes that will not catch on levers.

6. Develop knowledge of standard hand signals for communications.

7. Learn to smoothly operate the skid-steer’s moving, steering, and lift controls.

8. Know the materials you are loading. Objects like large stones can fall out of the bucket into the operator’s cab when the bucket is rolled too far back.

9. Face the skid-steer and use 3-points of contact to enter and exit the skid-steer: two hands and one foot or one hand and two feet are in contact with the machine at all times. Use any foot pads and hand holds that are on the machine.

10. Use tie-down attachments to secure the skid-steer when transporting on a trailer.

11. When finished with the skid-steer lower the bucket flat to the ground to park safely.

12. Avoid operating on slopes, ditches, and embankments when possible.

13. Inspect the work area for hazards prior to operation.

14. Check to see if overhead utility wires are near the work area.

15. Avoid working with any type of pile or embankment that is higher than the operator’s station or that could result in being buried in place should the pile or embankment collapse like undercutting large silage piles or high embankments. Silage piles and gravel banks should not exceed the reach of the skid steer boom height.

All training will be presented to employees in a manner that employees receiving it are capable of understanding (visual and oral presentations). Training presentations will be delivered in the primary language and at the appropriate literacy levels of the workers. During, and at the end of training, an assessment will be made to see that employees understood the training.

B. Upon completion of the training program, each employee will sign a form documenting that he/she has received the training. (See Form #2)

C. Whenever a new employee is transferred or hired, he/she will be provided training regarding the operation of skid-steer loaders if it will be part of their assignment. The training session will be conducted by

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(person/position designated)

before the start of his/her employment. This must be done prior to employee’s initial work with any skid-steer loader.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(person/position designated)

will conduct training on the specific hazards of the job and the appropriate personal protective equipment and safety precautions and procedures.

E. Refresher training will be done by

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

(person/position designated)

Refresher training can be delivered for the following circumstances; when job duties change, after an incident, or close call or when supervisor inspections reveal improper procedure and at least annually. Refresher training will follow the procedures outlined in VIII (A-D).

**X. INFORMATION TO CONTRACTORS**

A. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(person/position designated)

is responsible for providing outside contractors with any and all information regarding skid-steer loaders and potential hazards.

**XI. PERSONNEL POLICIES**

When an employee is not following safety and health rules regarding skid-steer loader operation, disciplinary action will be taken.

**LIST OF SAMPLE FORMS/DOCUMENTS**

Form 1 SKID-STEER LOADER OPERATION ANNUAL PROGRAM SUMMARY

Form 2 EMPLOYEE SKID-STEER LOADER OPERATION TRAINING RECORD

Form 3 SKID-STEER LOADER CHECKLIST

Form 4 SLOW MOVING VEHICLE EMBLEM FIGURE J-7

Form 5 OSHA Safety and Health Information Bulletin SHIB 01-12-2009

**Hazards Associated with Operating Skid-Steer Loaders with Bypassed and/or Improperly Maintained Safety Devices**

Form #1 **SKID-STEER LOADER OPERATION ANNUAL PROGRAM SUMMARY**

**Training**

|  |  |  |
| --- | --- | --- |
|  | **Number of Training**  **Courses Presented:** | **Number of Employees Trained:** |
| **New-employee training:** |  |  |
| **Skid-steer-specific training:** |  |  |
| **New-equipment training:** |  |  |
| **Other training:** |  |  |
| **Total courses/employees** |  |  |

**Skid-Steer Loader Equipment**

|  |  |  |
| --- | --- | --- |
|  | **# of tractors:** | **ROPS type** |
| **Previous Total:** |  |  |
| **New This Year:** |  |  |
| **Revised Total:** |  |  |
|  |  |  |

**The following activities have been completed:**

\_\_\_\_\_ Written program is up to date.

\_\_\_\_\_ Servicing and maintenance protocols are up to date.

\_\_\_\_\_ All training is up to date.

\_\_\_\_\_ All skid-steer loaders have functioning safety equipment

**If any of the above activities are not complete, explain:**

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Completed By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Form #2 **EMPLOYEE SKID-STEER LOADER OPERATION TRAINING RECORD**

**The following employee(s) have completed training in Skid-Steer Loader Operation. Each trained employee is now knowledgeable in all the training topics covered in the Safe Operation and Servicing of Skid-Steer Loader Equipment.**

All training topics outlined in Section VII, Employee Training

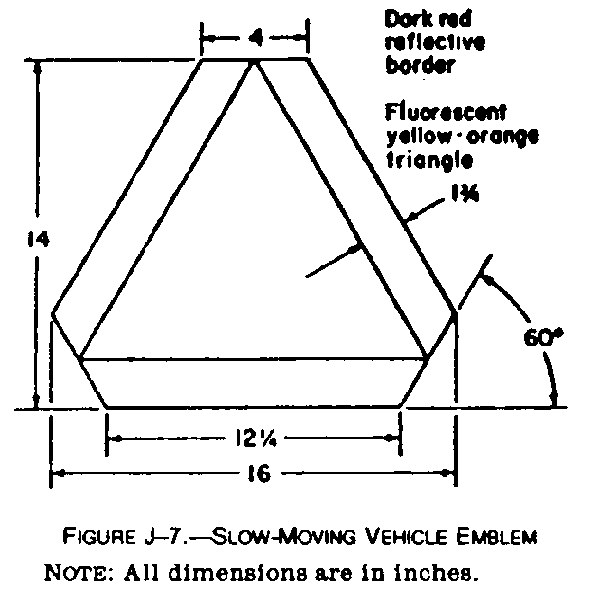
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Employee's Name** | **Employee's Signature** | **Date of Training** | **Trainer** | **Trainer's Signature** |
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Form #3 **SKID-STEER LOADER CHECKLIST**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Skid Steers Loaders Checklist** | **Yes** | **No** | **N/A** | **Comments** | **Date Completed** |
| 1 | Have all operators been trained annually on safe operation of the skid steers? |  |  |  |  |  |
| 2 | Have all operators reviewed owner’s manuals? |  |  |  |  |  |
| 3 | Do skid steers have a rollover protective structure (ROPS)? |  |  |  |  |  |
| 4 | Do skid steers & loaders have seatbelts? |  |  |  |  |  |
| 5 | Are safety interlocks in working order and not bypassed or inoperable? |  |  |  |  |  |
| 6 | On skid steers, are the side windows or screens on the cab in place? |  |  |  |  |  |
| 7 | If equipped with back-up alarms, are they operable? |  |  |  |  |  |
| 8 | Are fuel, oil and hydraulic systems free of leaks, and maintained at proper levels? |  |  |  |  |  |
| 9 | Is the operator’s area free of grease, mud, tools and other items? |  |  |  |  |  |
| 10 | Do all lights and flashers work? |  |  |  |  |  |
| 11 | Are reflectors and SMV emblems clean, unfaded and undamaged? |  |  |  |  |  |
| 12 | Are mufflers and exhaust components in good condition? |  |  |  |  |  |
| 13 | Are cab windows clean for good visibility? |  |  |  |  |  |
| 14 | Are tires in good condition and inflated to the recommended pressure? |  |  |  |  |  |
| 15 | Does the parking brake work if so equipped? |  |  |  |  |  |
| 16 | Are controls clearly marked and gauges working properly? |  |  |  |  |  |
| 17 | If noise is >85dB is hearing protection available? |  |  |  |  |  |

FORM #4 SLOW MOVING VEHICLE EMBLEM FIGURE J-7



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FORM #5

**Hazards Associated with Operating Skid-Steer Loaders with Bypassed and/or Improperly Maintained Safety Devices**

Safety and Health Information Bulletin

SHIB 01-12-2009

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| This Safety and Health Information Bulletin is not a standard or regulation, and it creates no new legal obligations. The Bulletin contains recommendations as well as descriptions of mandatory safety and health standards. The recommendations are advisory in nature, informational in content, and are intended to assist employers in providing a safe and healthful workplace. The Occupational Safety and Health Act requires employers to comply with safety and health standards promulgated by OSHA or by a state with an OSHA-approved state plan. In addition, pursuant to Section 5(a)(1), the General Duty Clause of the Act, employers must provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm. Employers can be cited for violating the General Duty Clause if there is a recognized hazard and they do not take reasonable steps to prevent or abate the hazard. However, failure to implement any recommendations in this SHIB is not, in itself, a violation of the General Duty Clause. Citations can only be based on standards, regulations, and the General Duty Clause. |

**Introduction**   
Skid-steer loaders (Figure 1) are manufactured with safety features to prevent unexpected or inadvertent movement of the loader arm and hydraulics when the operator is not in the cab. However, these safety features can be bypassed, defeated or improperly maintained which can result in serious injury or death to the operator and/or other employees working on or around the equipment. 

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| Figure 1: Typical Skid-Steer Loader |
| **Figure 1: Typical Skid-Steer Loader** |

**Purpose**  
The purpose of this Safety and Health Information Bulletin is to:

* raise public awareness about recent fatalities that have occurred with skid-steer loaders due to bypassed safety devices;
* alert employers and employees about the need to review and follow manufacturer instructions regarding the installation, use, testing, inspection, and maintenance of safety devices on skid-steer loaders; and
* emphasize the importance of conducting training on the proper use of skid-steer loaders.

**Scope**  
This SHIB focuses on the seatbelts and safety interlock systems typically found on skid-steer loaders intended primarily for earth moving. Such vehicles are not covered by the requirements of OSHA's Powered Industrial Truck standard, 29 CFR 1910.178.   
**Background**   
Common safety features of a skid-steer loader include the seatbelt for operator restraint, Falling Object Protective Structure (FOPS), Roll-Over Protective Structure (ROPS), and a Control Interlock System. Some of these machines are equipped with a pulldown armrest (seat bar) that may be used to interlock the machine control systems (as shown in Figure 2). The seatbelt helps prevent the operator from being thrown about inside or falling out of the skid-steer loader. The FOPS and ROPS protect the operator from falling objects and injury due to accidental rollovers. Control Interlock Systems and/or operator seats used on some machines typically activate a safety interlock system that is intended to prevent inadvertent movement of the machine’s controls when the operator is not in the proper operating position (i.e., seated). 

|  |
| --- |
| Figure 2: Typical Control Interlock System (seat bar, shown in raised position) |
| **Figure 2: Typical Control Interlock System (seat bar, shown in raised position)** |

Review of OSHA's Integrated Management Information System (IMIS) reveals that between 1997 and 2007, 100 accidents were recorded specifically involving skid-steer loaders. The deliberate bypassing of safety features (such as seatbelts and control interlock systems) was identified as the direct cause of 20% of these incidents, with all but one resulting in a fatality. Three cases are described below:   
  
Case 1:   
An employee was working alone, operating a skid-steer loader for "fine grading" or smoothing out dirt to provide the final contouring around a new home that was nearing completion. While operating the skid-steer loader, one of the bucket bolt pins, which connects the loader arm to the bucket, fell out. The employee dismounted the vehicle with the engine still running, manually lowered the lap bar safety device, and operated the hydraulic controls from outside the vehicle. The employee was attempting to realign the loader arm hole with the bucket hole and reinsert the bucket bolt pin. In the process, he was trapped between the bucket and the body of the skid-steer loader and was crushed. The employee was found in a position that allowed him to operate the controls from outside the vehicle with the bucket bolt pin and a large hammer nearby.   
  
Upon inspecting the skid-steer loaders on this job site, the following conditions were noted:

* The interlock control system was disabled on the unit involved in the accident. This system was intended to prevent the loader’s controls from operating unless the operator was in the proper operating position. The absence of the operator's weight should have deactivated an electronic switch under the seat that allows the loader controls to function when the lap bar is also in a lowered position. The system ensures that the engine stops when the operator leaves the seat of the skid-steer loader or attempts to lower the lap bar to operate the loader controls from outside of the skid-steer loader.
* Interlock control systems on other skid-steer loaders on site had also been disabled or were not functioning properly. This condition allowed the operator to activate the loader's controls with the seat bar in the raised position.
* Backup alarms did not work on some units.
* Seatbelts had been removed from the skid-steer loaders.

The employer received a citation for a serious violation under the General Duty Clause of the Occupational Safety and Health Act (OSH Act) (Section 5(a)(1)).   
  
Case 2:   
An employee was ordered by his company to repair a leak in the hydraulic slave cylinder of a skid-steer loader. He drove the skid-steer loader into the warehouse and began the repair. He bypassed the safety bar by jamming it into the interlocks without being seated in the cab. He then started the skid-steer loader and raised the bucket over the cab. Upon exiting the cab, his foot inadvertently pressed the down pedal for the bucket. The bucket came down and trapped him between the lift and the cab. He then hit the left side lever, causing the skid-steer loader to move in reverse. It crashed into a parked forklift and he was killed.   
  
Upon investigation, the three causes of the accident were identified as:

* Employee's intentional bypassing of the safety features of the skid-steer loader to perform maintenance,
* Failure to use an approved lift arm support device, and
* Improper employee training on operating, servicing, or maintaining the skid-steer loader according to the manufacturer's instructions.

The employer received a citation for a serious violation under the General Duty Clause of the OSH Act (Section 5(a)(1)).   
  
Case 3:   
An employee at a tractor implement dealership was cleaning debris from a wash bay using a skid-steer loader. This particular skid-steer loader was equipped with a manual seat bar as well as a pressure switch in the seat to detect the presence of an operator. The operator was able to leave the cab to wash the skid-steer loader bucket while it was still operational. The bucket was left sitting on its nose which prevented the loader arms from resting against the body of the vehicle as it was designed to do. This position made it difficult to enter and exit the cab. As the employee attempted to get back into the cab, he slipped and fell face-first into the cab seat. The loader arms dropped and caught him between the body of the skid-steer loader and the loader arms, and he was killed.   
  
The two major contributing factors to this accident were:

* Employee's intentional bypassing of the safety systems of the skid-steer loader, and
* Improper employee training on the safety features associated with the skid-steer loader. "On-the-job" training did not include a review of the operator's manual.

The employer received a citation for a serious violation under the General Duty Clause of the OSH Act (Section 5(a)(1)).   
**Conclusion**   
Properly maintained and functioning seatbelts and control interlock systems are critical to the safe operation of skid-steer loaders. Field reports have shown injuries and fatalities can occur by operating skid-steer loaders with one or both of these safety systems bypassed, disabled, or improperly maintained.   
**OSHA Requirements**   
While OSHA does not have a standard requiring employers to use control interlock systems or seatbelts on skid-steer loaders, it is important for employers to understand that under the General Duty Clause of the OSH Act (section 5(a)(1)), employers must provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm. OSHA may cite an employer for a violation under the General Duty Clause if recognized hazards exist and the employer does not take feasible, effective measures to abate such hazards.   
OSHA takes the position that an employee who moves from the proper position on a skid-steer loader while it is energized, by doing such activities as performing maintenance or repair operations, creates the recognized hazards of crushed-by and/or caught in-between. The failure to use seatbelts also increases the risk of employee injury in the event of rollover. [1,2]   
  
Employers may abate these hazards by, among other things, communicating and effectively enforcing work rules prohibiting employees from disabling or bypassing safety equipment, including safety interlock systems, and requiring employees to use seatbelts at all times when operating a skid-steer loader.   
When equipment such as a skid-steer loader is used in construction activities, 29 CFR 1926.20(b)(2) requires construction employers to develop safety and health programs that provide for frequent and regular inspections by competent persons designated by the employee of 1) the job sites, 2) materials, and 3) equipment. In addition, 29 CFR 1926.21(b)(2) requires construction employers to instruct employees in the recognition and avoidance of unsafe conditions and the regulations applicable in their work environment to control or eliminate hazards or other exposures to prevent illness and injury.   
If skid-steer loaders are used in situations covered by 29 CFR Part 1910, then the requirements of OSHA's Control of Hazardous Energy (lockout/tagout) standard, 29 CFR 1910.147, may be applicable. Such situations may include, but are not limited to, use of skid-steer loaders in warehousing operations or servicing and maintenance performed on skid-steer loaders in maintenance facilities.   
  
**Safety Practices**   
The following practices will minimize hazardous situations associated with operating and maintaining skid-steer loaders:

* Always read and understand the operator's manual before using the piece of equipment. Always follow the manufacturer's recommendations and specifications when operating it.
* Always lower the bucket or attachment so that it is flat on the ground. Do not attempt to activate the skid-steer loader’s controls from outside the operator's compartment.
* Do not leave the operator's seat while the engine is on. Never attempt to activate the controls unless properly seated with the seatbelt fastened and the seat bar (if equipped) lowered. Keep all body parts inside the cab while operating a skid-steer loader.
* Never modify, bypass, disable, or override safety systems. Similarly, never operate equipment in which safety systems have been modified or are not working properly. Equipment with modified or malfunctioning safety systems should be taken out of service until repaired or replaced.
* Never permit riders on the skid-steer loader, in the bucket or attachment, or in the operator's compartment unless the compartment is designed to accommodate a second rider.
* Always keep bystanders a safe distance away from the work area.
* Establish a routine maintenance and inspection program in accordance with the manufacturer's recommendations. Inspect the skid-steer loader to ensure that all safety systems are functioning properly prior to operating the equipment.
* Follow the manufacturer's instructions for maintaining the skid-steer loader. Never attempt maintenance or other work while lift arms or attachments are raised without using an approved lift arm support device. Replace protective guards and shields after repairs or service.
* Train personnel on the proper inspection, use, maintenance, and repair of skid-steer loaders according to the manufacturer's instructions. Train supervisory personnel to identify hazards, such as safety systems that have been bypassed, disabled, or that require maintenance.

**References and additional information**

1. OSHA-Beisel. 1998. Letter of Interpretation addressed to Robert Beisel, Hazard Recognition Services, Inc. [Guidelines for ROPS on pneumatic compactors and "skid steer" equipment](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=22546). (March 16)
2. OSHA-McQuade. 1998. Letter of Interpretation addressed to Brian McQuade, Laborer's Health and Safety Fund of North America. [ROPs/seatbelts for roller compactors; lockout/tagout in construction](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=22547). (March 16)
3. OSHA-Roth. 2003. Letter of Interpretation addressed to Joel Roth, Southfield, MI. [Requirements to use seat belts during the operation of earthmoving equipment](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=24902). (December 15)
4. The [*Morbidity and Mortality Weekly Report (MMWR)*](http://www.cdc.gov/mmwr/preview/mmwrhtml/00043153.htm) is prepared by the Centers for Disease Control and Prevention (CDC). The data in the weekly *MMWR* are provisional, based on weekly reports to CDC by state health departments.
5. NIOSH [Fatality Assessment and Control Evaluation (FACE) Program](http://www.cdc.gov/niosh/face/stateface/mi/04mi176.html). The FACE program concentrates on investigations of fatal occupational injuries. The primary intent of this program is to provide interested users with access to the full text of hundreds of fatality investigation reports.
6. NIOSH Alert, [Preventing Injuries and Deaths from Skid Steer Loaders](http://www.cdc.gov/niosh/docs/98-117/).