



City Safe

A Guide To Assist In Training
Employees About:

November /
December
2005

SAFE OPERATION OF SKID STEER LOADERS

Number 25

Inside this issue. . .

Skid Steer Loaders	Pages 2, 3, & 4
Did You Know?	Page 4
Safe-T-Tips	Page 5
Overtime - Safety Risks	Page 5
Chlorine Leak Testing	Page 6

*Kansas Municipal Insurance Trust
Board of Trustees & Key Contacts*

Keith DeHaven - President
Sedgwick

Cheryl Lanoue - Vice-President
Concordia

Linda Jones - Treasurer
Osage City

David Alfaro -
Immediate Past President
Augusta

Cheryl Beatty Carol Eddington
Eudora Oswego

Gary Hobbie Ty Lasher
Russell Cheney

Lana McPherson Bud Newberry
De Soto Ulysses

Howard Partington
Great Bend

Don Moler
LKM Executive Director
Ex-Officio

Don Osenbaugh
Pool Administrator

Mark Morris Wendy Flowers
Co-Editor Co-Editor

Rose Miller
Bookkeeper

City Safe is a publication of the League of Kansas Municipalities and the Kansas Municipal Insurance Trust for the purpose of educating and informing cities about loss control methods and risk management. Contents herein are not intended to provide specific legal or medical advice. Readers should seek advice on specific concerns from a qualified professional.

*Kansas Municipal Insurance Trust
300 SW 8th Avenue
Topeka, KS 66603
Phone: (785) 354-9565
Fax: (785) 354-4186
wflowers@lkm.org*

With the ever expanding list of duties that cities perform, it is not surprising that skid steer loaders have become a popular piece of equipment. The variety of jobs this somewhat simple machine can accomplish makes it a useful tool for cities. Although the operation of the loader is somewhat simple, there are still significant risks associated with running one of these machines.

One inherent risk associated with these loaders is the fact that the operator must enter and exit from the front of the loader. Also the various moving parts, pivot points and lift arms that are located near the operator make these machines potentially dangerous.

The following cases illustrate the potential effects of improper operation of one of these loaders:



On October 29, 1993, a 26-year-old male hog farmer was fatally injured when he was caught between the frame of a skid steer loader and the lift arm hydraulic cylinder. The victim was working alone, using the loader to pile manure in one corner of a hog containment building. The loader's protective cage had been removed to permit operation under the 6 to 6½ foot ceiling of the building. The lift arm support could be used only when the lift arms were fully raised. The loader stalled in front of and facing the manure pile with the bucket raised, preventing the victim from dismounting through the front of the machine. As he attempted to climb over the side of the machine, he unintentionally hit the lift arm control lever, causing the lift arms to drop and crush him against the frame. A family member called 911, and first responders released the victim using a large front end loader and chain. The victim was transported to a hospital where he was pronounced dead on arrival as a result of respiratory arrest after a crush injury to the chest wall [Minnesota Department of Health, 1994].

On July 6, 1997, a 25-year-old male worker for a tree-trimming service was fatally injured when he was caught by the descending lift arm of an operating skid steer loader. At the time of the incident, he was using the loader to pick up brush and stumps in a residential area. The side screens on the machine had been removed. Following a lunch break, the victim resumed operating the loader to gather yard debris and deposit it in a dump truck. As he was loading a log into the truck, he placed his head outside the operator's compartment in the path of the lift arm. The lift arm moved down when the victim unintentionally stepped on the foot-operated lift control or when hydraulic pressure was lost because of a ruptured line. A passing homeowner noticed hydraulic fluid spraying from the machine and alerted one of the victim's coworkers, who found the victim sitting in the operator's seat with his head crushed by the lift arm. Emergency personnel at the scene noted that the left main pivot pin connecting the lift arm to the frame was missing. Investigators concluded that the pin might have disengaged while the lift arm was down in the carry position, resulting in dislocation of the lift arm and rupture of the hydraulic line [NIOSH, 1997a].



Although the above cases illustrate fatal accidents involving skid steer loaders, there are no doubt hundreds of incidents involving crushed fingers and toes and thousands of near misses. The appeal of these machines is that they provide a great deal of power and maneuverability in a small package. However, because of their compact size, many moving parts are very close to the operator. To keep yourself safe inside and outside of these loaders, observe the following guidelines:

Safe Operation

- Operate the loader from the operator's compartment—never from the outside.
- Stay seated when operating the loader controls.
- Work with the seat belt fastened and the restraint bar in place.
- Keep your arms, legs, and head inside the cab while operating the loader.
- When possible, plan to load, unload, and turn on level ground.
- For maximum stability, travel and turn with the bucket in the lowest position possible.
- Never exceed the manufacturer's recommended load capacity for the machine.
- Operate on stable surfaces only.
- Avoid traveling across slopes; travel straight up or down with the heavy end of the machine pointed uphill.
- Always face the direction of travel.
- Keep bystanders away from the work area.
- **NEVER** modify or bypass safety devices.

Entering and Exiting

- Enter only when the bucket or other attachment is flat on the ground—or when the lift-arm supports are in place. Use supports 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 for 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 to the ground,
 - set the parking brake, and
 - turn off the engine.

When used safely, by a competent operator, a skid steer loader is a valuable piece of equipment, but just like most other equipment, when you combine steel, hydraulics and horsepower, there is always the potential for injury. By observing some of the tips from above, we hope you and your coworkers will spend more time on the jobsite and less time at the doctor's office.



DID YOU KNOW?

THE HIGH COST OF FIRES

Every year, workplace fires:

- Kill 200 people***
- Injure more than 5,000 people***
- Cost businesses more than \$2.3 billion***

The human and financial toll underscores the serious nature of workplace fires. To prevent death and injury, regular fire drills for all employees are a great start.

Safe-T-Tips

Alcohol related incidents cost employers \$148 billion a year. When you take action:

- Expect the worker you confront to be angry or in denial
- Be as tough on alcohol abusers as you are on drug abusers
- Remind the person that his or her safety, as well as the safety of their co-workers, is your #1 priority

OVERTIME WORK LEADS TO SAFETY RISK

A new study in the *Journal of Occupational and Environmental Medicine* states that jobs with overtime and long shifts pose a 61% higher injury hazard rate compared to jobs with regular hours. Some claimed that jobs that require overtime are inherently more dangerous, but the researchers controlled for that factor in their study.

Specifically, the research showed that:

1. Working 12 hours a day or longer increased injury risk 37%.
2. Putting in work weeks of 60 hours or more increased risk 23%.

This research suggests that employers should:

1. Adapt work schedules to minimize fatigue (rest breaks or redesigned work schedules).
2. Keep an eye on employees who regularly work more than 40 hours a week for medical problems.
3. Educate employees and supervisors about the dangers of increased work hours.



4. Encourage good home health habits (good sleep habits, proper nutrition, avoidance of drugs/alcohol).

Chlorine Institute Task Group to Evaluate Use of Ammonia Vapors for Chlorine Leak Testing

The Chlorine Institute, Inc. (www.chlorineinstitute.org) has formed a task group to evaluate new information raised concerning the use of ammonia vapors to test for chlorine leaks on valves and fittings made of copper or brass alloys. Sherwood Valve has indicated that ammonia may cause problems with such metal alloys. The Chlorine Institute, Inc. is currently evaluating this and urges anyone testing for chlorine leaks with ammonia water (ammonia hydroxide solutions) on brass or copper alloys to ensure that only the ammonia vapor and not the liquid solution comes into contact with the alloy.

We are always looking for new ideas or topics for City Safe. If you have a topic you would like to see covered in an upcoming edition, please contact Mark Morris at mmorris@lkm.org or by phone at (785) 354-9565. We are also looking for knowledgeable authors who would like to write an article about a timely issue concerning safety in your city.

Kansas Municipal Insurance Trust

300 SW 8th Avenue
Topeka, KS 66603