

FACE INVESTIGATION

SUBJECT: Farmer Dies When Skid Steer Loader Overturns

SUMMARY: A male farmer (the victim) died when the skid steer loader he was operating overturned in a field on his farm (Figure 1). The victim was apparently planning to move a pile of stones on a hill. When he drove the loader uphill with the bucket raised in a high position, the loader tipped over backwards. The restraint bar on the loader was lowered, but the seatbelt was unfastened at the time of the incident. The victim struck his head on the back of the loader cage when the machine overturned, and he lost consciousness.



Figure 1. Side view of skid steer loader

His position in the cab caused his airway to be closed off, so he was unable to breathe. A family member who was working in an adjacent field found the overturned loader, with the victim nonresponsive. He used a two-way radio to alert other co-workers, then went to a phone to call for EMS services. First responders were on the scene within four minutes. The coroner was called, and pronounced the victim dead at the scene. The FACE investigator concluded that, to prevent similar occurrences, farmers who use skid steer loaders should :

- **always keep the seat belt fastened and the restraint bar in place when operating the skid steer loader.**
- **travel and turn with the bucket in the lowest position possible.**
- **travel straight up or down hills with the heavy end of the load uphill.**

INTRODUCTION:

On April 28, 2001, a 69-year-old male farmer died while operating a skid steer loader which overturned backwards on a hill on his farm. The Wisconsin FACE field investigator learned of the incident through the newspaper on April 30, 2001. In May 2001, the field investigator contacted the coroner and initiated the investigation. The FACE investigator reviewed the death certificate and the coroner, EMS and sheriff's reports. On January 11, 2002, the investigator conducted an onsite visit, and interviewed members of the victim's family.

This incident occurred on a hog, cattle and crop farm owned and operated by the victim and his family. He grew up on a dairy farm, and continued in farming throughout his lifetime. He owned

the farm where the incident occurred for about 30 years, and had been transferring responsibility for farm operation to other family members before the incident occurred. There had been no fatalities at the farm prior to this event. The farm was comprised of about 1200 acres, and the farmers raised about 50 sows and 50 cattle at a time, and maintained 25 horses for show. Much of the feed for the animals was grown and stored on the farm. The farm site was well-kept, and farm machines were maintained on a regular schedule. Machine maintenance and repair manuals were available and frequently used by the farmers.

On a typical day, the farmer had breakfast at a local restaurant early in the morning, and visited with other local farmers. He would start outdoor chores after returning home, and work for several hours before stopping for lunch. After lunch he would rest for awhile, then continue with farm chores for the afternoon. His chronic health conditions were a factor in his decision to cut back on farming activities, but he had no apparent functional limitations. He was a community leader who was active in agricultural business organizations.

INVESTIGATION:

On the morning of the incident, the farmer led his usual routine and was working with family members to finish planting soybeans in a field about one-fourth mile from the farmyard. He finished planting his area, then apparently drove the skid steer loader to a rockpile in the field where he had been working. The victim was apparently planning to move scattered stones to a more compact pile on the hill. The 10-year-old loader had been purchased new by the farmer, and was equipped with a rollover protective structure (ROPS), a restraint bar, and seat belts (Figure 2). An interlock system prevented the operator from operating the bucket unless the restraint bar was lowered. Counterweights were built into the rear of the machine to balance the machine when the bucket was loaded.

It was the victim's custom to drive the loader with the bucket raised high, to have a better view in front of the loader. He apparently drove the loader uphill with the bucket raised to its maximum height, which caused the loader to tip backwards.

The restraint bar on the loader was lowered, but the seatbelt was unfastened at the time of the incident. The victim struck his head on the back of the loader cage when the machine overturned, and he lost consciousness. His position in the cab caused his airway to be closed off, so he was unable to breathe. A family member who was working in an adjacent field found the overturned loader, with the victim nonresponsive. He used a two-way radio to alert other co-workers, then went to a phone to call for EMS services. First responders were on the scene within four minutes. The coroner was called, and pronounced the victim dead at the scene.



Figure 2. View of cab with seatbelts and restraint bar.

CAUSE OF DEATH: The official cause of death was severe cardio-pulmonary congestion with anoxia due to subarachnoid hemorrhage from trauma.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Farmers who use skid steer loaders should always keep the seat belt fastened and the restraint bar in place when operating the skid steer loader.

Discussion: The seat belt protects the operator in several ways. The seat belt can protect the operator from being jostled and thrown against cab structures, or into the operating zone of the lift arms and bucket. During rollovers, the seat belt maintains the operator within the protective envelope of the If seat belts are part of the interlocked control system, they protect workers from being caught and crushed between the lift arms and frame.

Recommendation #2: Farmers who use skid steer loaders should travel and turn with the bucket in the lowest position possible.

Discussion: A loader is more likely to tip when the when the bucket is raised because the center of gravity is higher. The operator should keep the bucket as low as possible when traveling or turning, and raise the bucket only as high as necessary when the machine is not traveling.

Recommendation \$3: Farmers who use skid steer loaders should travel straight up or down hills with the heavy end of the machine pointed uphill.

Discussion: A skid steer loader may tip toward the heavy end of the machine when traveling on a slope. In this case, the heavy end of the loader was the rear, where the counterweights were located. When the victim drove uphill, the weight on the rear of the machine caused it to tip backwards.