

Farmer Dies After Becoming Entangled In The Drive Mechanism Of A Snow Blower

SUMMARY

The victim was alone at the time that the incident occurred. This report is based on a review of a written sheriff's department report, and a review of their photos of the incident site.

A 36-year-old farmer (victim) died after he became entangled in a tractor mounted snow blower. The two stage snow blower consisted of a horizontal auger and a multi-blade discharge fan. The horizontal auger extended the full width of the blower. It was driven by a horizontal shaft that extended from a gear box in the center of the blower to a drive sprocket on one side of the blower.

The victim stopped the tractor near a farm building and dismounted from it. The tractor engine was left running and the power-take-off was not disengaged. The victim walked to an area near a drive chain and sprockets on the right side of the blower. While he was in the vicinity of the chain and sprockets, the right sleeve of his coveralls became entangled in one of the sprockets. He was pulled against the blower and was unable to free himself as his clothing wrapped around the shaft and sprocket. A neighbor discovered the victim entangled in the snow blower. He immediately stopped the tractor engine and called emergency personnel. They arrived shortly after being notified, removed the victim and pronounced him dead at the scene. MN FACE investigators concluded that to reduce the likelihood of similar occurrences, the following guidelines should be followed:

- **operators should disengage the power-take-off before dismounting from a tractor;**
- **operators should turn off the engine and remove the key before dismounting from a tractor; and**
- **operators should not wear loose-fitting clothing near operating machines.**

INTRODUCTION

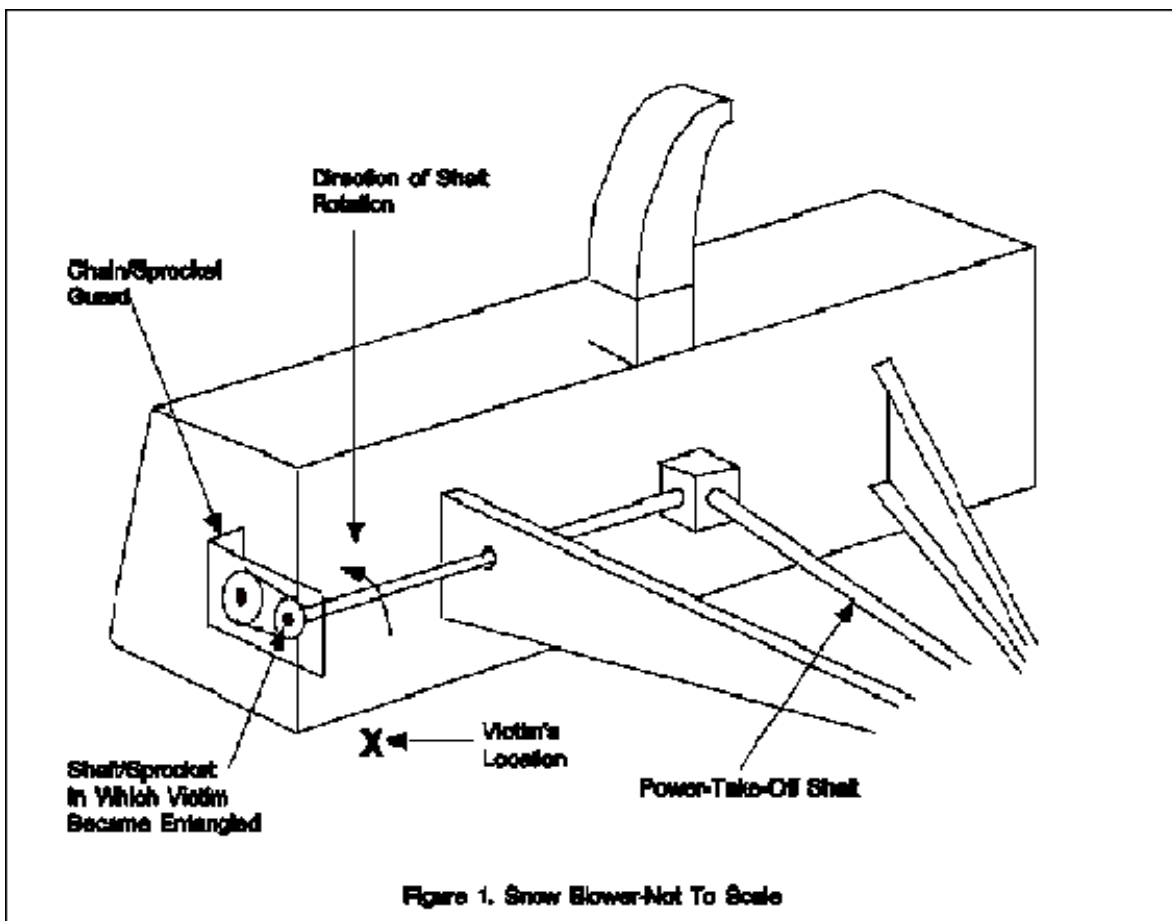
On December 11, 1995, MN FACE investigators were notified of a farm work-related fatality that occurred on December 10, 1995. The county sheriff's department was contacted and releasable information was obtained. Information obtained included a copy of their report of the incident and copies of their photos of the incident site. A site investigation was not conducted by MN FACE investigators. During MN FACE investigations, incident information is obtained from a variety of sources such as law enforcement agencies, county coroners and medical examiners, employers, coworkers and family members.

INVESTIGATION

On the day of the incident, the victim, working alone, used a tractor mounted snow blower to blow snow at a neighbor's farm. The power-take-off driven snow blower was attached to the three-point hydraulic lift of a farm tractor. The snow blower consisted of a horizontal auger and a multi-blade discharge fan. The horizontal auger extended the full width of the blower and transferred the snow to the discharge fan. The auger was driven by a horizontal shaft (See [Figure 1](#)) that extended from a gear box in the center of the blower to a drive sprocket on the right side of the blower (when facing forward).

The victim had nearly completed the task of removing snow from the farm yard. He stopped the tractor near a farm building and dismounted from it. The tractor engine was left running at an idle speed and the power-take-off was not disengaged. The victim walked to the area near the chain and sprockets on the right side of the blower, apparently because of some type of problem with the drive mechanism. While he was in the vicinity of the chain and sprockets, the right sleeve of his coveralls became entangled in the sprocket attached to the end of the drive shaft. He was pulled against the front of the blower and was unable to free himself as his clothing wrapped around the shaft and sprocket.

The farm owner arrived home and discovered the victim entangled in the snow blower. He immediately stopped the tractor engine and then called emergency personnel. They arrived shortly after being notified and removed the victim from the drive shaft. He was pronounced dead at the scene by the county coroner. After the victim was removed, it was discovered that the auger drive chain that connected the two sprockets on the end of the blower was broken. It could not be determined whether the chain broke before the victim became entangled or as a result of him becoming entangled.



CAUSE OF DEATH

The cause of death listed on the death certificate was blunt trauma to head, neck and chest.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Operators should disengage the power-take-off before dismounting from a tractor.

Discussion: Entanglements in power-take-off shafts and machinery components can be prevented by disengaging the tractor's power-take-off before operators dismount from the tractor. Although this may not be possible in certain cases where a tractor is used to power a stationary machine, it should always be done when the operator is using portable machines, such as the snow blower in this incident. If the power-take-off had been disengaged before the operator dismounted from the tractor, this fatality would have been prevented.

Recommendation #2: Operators should turn off the engine and remove the key before dismounting from a tractor.

Discussion: The potential for injury or death, due to entanglement, can be virtually eliminated by stopping the engine and removing the ignition key before operators dismount from tractors. Stopping the engine and removing the key provides protection: from power-take-off shaft entanglement; entanglement in moving machine parts; and from unexpected engagement of power by another person while the operator is cleaning, lubricating, adjusting, or repairing a machine. In this case, if the tractor engine had been stopped and the ignition key removed before the operator dismounted from the tractor, this fatality would have been prevented.

Recommendation #3: Operators should not wear loose-fitting clothing near operating machines.

Discussion: The risk of entanglement in rotating shafts and machine components can be reduced if operators do not wear loose fitting clothing. Work clothing should be well-fitting and zippered or buttoned, not open. Frayed or loose fitting clothes, jackets and sweatshirts with drawstrings, and boots or shoes with long shoelaces should be avoided. Although it did not appear that the victim in this incident was wearing loose fitting clothing, this recommendation is a general safe work practice that should always be followed by operators of machines whenever the risk of entanglement exists.

REFERENCES

1. Agriculture Safety, Fundamentals of Machine Operation, 1987, Deere & Company, Moline, Illinois, Third Edition.

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