

Bulldozer Owner / Operator Dies When Thrown Off Bulldozer Track

Incident Number: 03KY049



Picture of bulldozer in the mountainside after incident occurred.

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Kentucky Fatality Assessment and Control Evaluation (FACE) Program

Incident Number: 03KY049

Subject: Bulldozer Owner / Operator Dies When Thrown Off Bulldozer Track

Summary

On June 19, 2003, a 58-year-old bulldozer owner/operator (decedent) died when he was thrown off the track of his bulldozer. The bulldozer owner/operator and a laborer were having difficulty starting the bulldozer. Together, the two men had tried several different methods to start the bulldozer including: spraying ether into the air chamber, having the battery recharged, replacing the battery cables with new ones and tightening wires to the starter. They worked from the left side track of the bulldozer. The laborer sat towards the front of the track tightening the wires to the starter while the owner stood on the track to the right of the laborer three to four feet away. As the laborer tightened the main lead wire to the starter, the owner stood on the track, leaned into the cab of the bulldozer and pushed the start button. The two men did not realize the dozer was in reverse gear. When the owner pushed the button, the bulldozer jumped backward, throwing the laborer off the side of the bulldozer track and throwing the owner underneath the track. The owner died at the scene from massive injuries to his pelvis and chest.

To prevent future occurrences of similar incidents, the following recommendations have been made:

Recommendation No. 1: Always start bulldozers and other heavy equipment from the cab with the seatbelt fastened.

Recommendation No. 2: Self-employed company owners should take continuing education courses including equipment maintenance and troubleshooting techniques.

Recommendation No. 3: Do not sit or stand on parts of bulldozers or other heavy equipment not intended for human occupancy.

Background

On June 21, 2003, via newspaper surveillance, the Kentucky Fatality Assessment and Control Evaluation Program became aware of an occupational fatality involving an owner/operator of a bulldozer. The incident occurred on June 19, 2003. The local coroner was contacted on June 22, 2003, and a site visit was made June 24, 2003. Persons interviewed were the coroner, a laborer and another local person involved in the aftermath of the incident.

The decedent was a 58-year-old male independent bulldozer operator who contracted excavating services from residential and commercial customers. He had been operating bulldozers and other heavy equipment for approximately 30 years. Sometimes the decedent employed the laborer for additional labor; sometimes the decedent worked alone. The owner employed work safety practices. The laborer attested that the decedent always wore the seatbelt when operating the

bulldozer and expected him to wear the seatbelt as well. When the laborer worked for the operator, safety precautions were taken on a regular basis. It is unknown if there were written safety procedures or if the owner had been involved in any other injury incidents.

A local resident contracted the bulldozer owner to complete an excavating job another excavating company had left uncompleted. The previous company had removed part of the mountainside, but had not finished grading the job site. To finish this, the bulldozer owner needed to level the job site for parking and a metal shop building to be erected. The job site was adjacent to the resident's house and yard located on the side of a mountain. The bulldozer the decedent used for this job was an older model (perhaps 20 to 30 years old) and was believed to weigh approximately 16 tons.

Investigation

On the day of June 19, 2003, the bulldozer owner arrived alone at the job site to perform a grading operation for a local resident. This involved leveling an area where a previous excavating company had removed part of a mountainside. The site needed to be prepared for a metal shop building to be erected with parking, and a driveway to the house and down the mountain. According to the coroner, the day was cool, humid and rainy. The bulldozer owner attempted to start the bulldozer, but it would not start. The engine would start, but then it would stop. After several unsuccessful attempts to start the bulldozer by himself, the owner drove to the laborer's home he often hired, to help start the machine.

The owner and laborer arrived at the work site and attempted to start the bulldozer. They tried spraying ether into the air chamber, which did not work. After numerous attempts, the battery lost its charge and the two men took the battery to a local store to be checked and recharged. It checked out at 100% and the two men took the battery back to the bulldozer and reconnected it. Another starting attempt was made with the recharged battery and spraying ether into the air chamber to start the bulldozer. Still the bulldozer wouldn't start. Then the two men replaced the existing clamps to the battery with new clamps, sprayed more ether into the air chamber and attempted to start the bulldozer again. The engine compartment then began to smoke and the owner and laborer removed the left side panel from the engine compartment. The laborer then tightened the main lead connection to the starter and sprayed ether into the chamber again.

As the men attempted to start the bulldozer, the laborer sat on the left track in front of the bulldozer cab and tightened the main lead connection to the starter, and the owner stood on the same track 3 - 4 ft away, leaned into the cab and pushed the starter button. The bulldozer suddenly jumped backwards and began moving, throwing the laborer sideways off the track while throwing the owner underneath the bulldozer track. The bulldozer started and traveled down the rear panel of a pickup truck that had been parked next to the bulldozer. As the bulldozer track ran over the decedent, the laborer got up, began following the dozer to turn it off, saw the decedent on the ground and went to check on him instead. While the bulldozer continued to drive itself backward approximately 70 feet until it reached the side of the mountain, the laborer assessed the situation and ran to the residence and told the homeowner to call emergency medical services (EMS) were contacted immediately at 6:07 pm. It is the local emergency services policy to implement advanced life support procedures whenever a bulldozer

is involved in an incident. Emergency medical services arrived at 6:19 pm, assessed the situation and called the coroner. The bulldozer continued to churn against the mountainside until the fuel ran out and the engine stopped. The coroner arrived and declared the operator dead at the scene.

Cause of Death

The cause of death was due to massive crushing injuries.

Recommendations & Discussions

Recommendation No. 1: Always operate bulldozer from the cab with seatbelt fastened.

When starting a bulldozer or other heavy equipment, the operator should follow safety precautions. Equipment should only be started with the operator sitting in the operator's seat with the seatbelt fastened (1). This will help eliminate the possibility of the machine moving unexpectedly and becoming out-of-control. The operator should ensure the machine is in neutral with the brake set and all persons clear before starting the engine.

Recommendation No. 2: Self-employed company owners should take continuing education courses including those addressing equipment maintenance and troubleshooting techniques.

Company owners of heavy equipment should keep themselves up-to-date on the latest updates involving the equipment they own, operate and maintain. New safety techniques and tools emerge and company owners and their employees should remain up-to-date on these techniques.

Recommendation No. 3: Do not stand or sit on sections of a bulldozer not intended for human occupancy.

The tracks of the bulldozer are meant to move the machine and not meant for personal occupancy. Heavy equipment is similar to farm tractors in several aspects. Both are dangerous when not operated properly and in a conscientious manner. Each has components not intended for human occupancy and those components are tempting to be used improperly. Bulldozer operators should only start the bulldozer when sitting in the operator's seat with the seatbelt fastened. However, there are occasions when maintenance issues dictate workers to access machine components from the tracks. When this is the case, workers should ensure the machine is turned off and in neutral. The brake should be set and the tracks should be chocked.

Keywords

Bulldozer
Ether
Tracks
Troubleshooting
Grading

References

Equipment Manufactures Institute, 1991, pg 17

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Side of pickup truck where decedent was thrown and the bulldozer in the side of the mountain.



Bulldozer in the side of the mountain.