

Massachusetts Inventory Control Clerk Dies after Falling from a High Lift Order Picker Truck

Investigation: # 99-MA-058-01

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SUMMARY

On October 29, 1999, a 49-year-old male inventory control clerk (the victim) was fatally injured when he fell approximately 12 feet from a high lift order picker truck platform while applying barcode labels in a warehouse freezer section. The victim fell as he stepped from the raised order picker truck platform onto a stacked box of product in an attempt to reach the next higher shelf. The victim was wearing a body harness and lanyard but had not secured the lanyard to the order picker truck anchor point. The victim was transported to a local hospital then to a hospital in a neighboring state where he was removed from life support four days later and died. The MA FACE Program concluded that to prevent similar occurrences in the future, employers should:

- **Adopt a mandatory tie-off/no unhook policy for employees using order picker trucks.**
- **Ensure that aisle ways are maintained free from obstructions that would interfere with lift truck access to storage shelves.**
- **Strictly enforce the safety precautions outlined in comprehensive safety programs and constantly review and update the programs and training.**

In addition, **high lift order picker truck manufacturers** should:

- **Consider equipping them with devices that will activate audible and visible alarms if the operator unhooks fall protection while the lift is raised.**

INTRODUCTION

On November 5, 1999, the MA FACE Program was notified by OSHA that on October 29, 1999, a 49-year-old male inventory control clerk had been fatally injured when he fell from a raised high lift order picker truck platform while applying barcode labels to shelving in a storage freezer. An investigation was immediately initiated. The MA FACE Program Director and an investigator traveled to the job site where the company safety manager was interviewed on

December 7, 1999. The police report, death certificate, OSHA fatality/catastrophe report, and photographs were obtained during the course of the investigation.

The employer, a food warehouse/distributor, employed approximately 1,291 people. These employees were divided among three shifts a day, six days a week. Approximately 408 of these employees were warehouse workers, and among these employees approximately 363 were regular operators of the various forklift equipment. The company had certified employees to use specific equipment required to complete assigned tasks. The company had designated several onsite safety representatives for the groups of employees within the three work shifts and held scheduled monthly safety meetings. In addition, the company had a comprehensive health and safety program in effect at the time of the incident. Included in the program were safety procedures for the various forklift equipment and techniques to complete common tasks.

The victim had been employed by the company for approximately twenty years as a nightshift supervisor. Approximately one year before the incident, he had switched to an inventory control clerk position during the dayshift. His training consisted of on-the-job training along with a comprehensive in-house training program, which was updated once a year. There is no union representation at this company.

INVESTIGATION

The food storage warehouse company was transitioning to a new computer system, using barcode labels to accurately monitor product inventory. The normal Friday work schedule had been moved to Saturday so the computer system could be implemented. The victim had switched his shift back to Friday so he could spend Saturday with his children. His scheduled work for Friday consisted of applying barcode labels to the storage rack shelves. Each barcode label corresponded to the particular item stored on that shelf. On the day of the incident, the labels were being applied to the shelving in the freezer section of the warehouse. The freezer section consisted of two large areas approximately 145 feet long with 52-foot ceilings. Each area had rows of shelving containing eight 52-inch high shelves. The shelves held 40-inch by 48-inch pallets with various sized boxes of product stacked on them.

The new electric four-wheeled high lift order picker truck involved in the incident had been recently purchased. The operator's platform of this particular style order picker truck raises and lowers along with the forks so an employee can gather boxes of product from shelves for an order and place them on a pallet for shipment (see figure 1). When the order picker truck is moving in the forward direction the lift's forks are behind the operator. The truck's maximum lifting height was 20 feet and its maximum forward speed with forks and platform lowered was 6.5 miles per hour. Safety features include a lower maximum forward speed while the forks and platform are in the raised position and a built in anchor point for attachment of a fall-protection lanyard. The anchor point is located above the operator's head keeping the lanyard out of the operator's way for maximum mobility. All of the company's powered trucks including the order

picker truck are on an in-house preventative maintenance schedule performed by the company's mechanics.

At the time of the incident, the truck's platform had been raised to provide access to the upper shelves of the freezer area. The victim had picked-up approximately six stacked empty pallets with the order picker truck's forks to use as a workbench. He was applying the barcode labels at a bridge location which is an extension of the storage shelf rows above the aisle. The bottom shelf of the bridge is approximately fifteen feet above the floor level. Each bridge section contains approximately four 52-inch high shelves. The victim had already applied two or three barcode labels at the bottom shelf of a bridge.

The freezer is typically kept at -10°F . The victim was wearing company supplied personal protective clothing for the cold temperatures and a body harness with lanyard. Due to boxes of product on the floor, the forklift was not positioned at the closest location to allow access to the next shelf for labeling but had been positioned on an angle next to the rack of shelves. The forks of the truck were carrying the stacked pallet workbench behind him. To reach the shelf location of the next label, the victim stepped off the order picker truck and onto a stack of boxes. The boxes were light, shrink-wrapped together and contained frozen blueberry biscuits, an item that would not add strength to the stack of boxes. When he applied his body weight by placing one foot on the outer edge of one of the stacked boxes the box fell. The victim lost his balance and fell to the freezer floor. The fallen box had a shoe mark on the outer edge and left an empty location at the corner of the stacked boxes. The victim's lanyard was attached to the body harness he was wearing, but the other end had not been secured to the overhead anchor point on the order picker truck.

The majority of the employees were not onsite during the incident due to the normal Friday schedule being switched to Saturday. A co-employee (#1) found the victim when he returned to the freezer after a 7 - 8 minute warm-up break. The victim was found lying on his side next to the order picker truck, which was still in the raised position. Co-employee #1 went to the office area to get help and returned with another co-employee (#2) and some blankets. Co-employee #2 covered the victim with the blankets while co-employee #1 returned to the office area and called for emergency assistance. When the emergency response unit arrived, they asked an employee to move the forklift out of the way while they cut the body harness off the victim. The emergency response unit reported that the he was breathing, moaning, but unable to answer questions. He was transported by ambulance to a local hospital and then transported to a larger hospital in a neighboring state. He was removed from life support and was pronounced dead on November 2, 1999, four days after the incident.

Prior to the incident the company had switched from the use of body belts to body harnesses for enhanced employee safety required by OSHA. During the investigation it was revealed that the victim had been resistant to wearing a personal fall arrest system, but had agreed to do so. In addition, investigation of work practices by the company after the incident revealed that an

employee might unhook the lanyard and step onto a shelf from a raised order picker truck to reach a desired box of product.

CAUSE OF DEATH

The medical examiner listed the cause of death as brain injuries and skull fractures due to blunt force trauma.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should adopt a mandatory tie-off/no unhook policy for employees using order picker trucks.

Discussion: Any company that has high lift order picker trucks (see Figure 1) or similar equipment in use should adopt a mandatory tie-off/no unhook policy. The operator's platform of the order picker truck is raised with the lift forks creating a fall hazard for the operator. A policy should state that at all times when using a order picker truck the operator must be tied off to the order picker truck and under no circumstances will the operator unhook the lanyard from the anchor point when the lift is in the raised position. The policy should also prohibit stepping off the order picker truck onto shelved boxes of product. In this case, if the victim's lanyard had been connected to the truck's anchor point, the fall would have been arrested and the injuries would have been minimized.

Recommendation # 2: Employers should ensure that aisle ways are maintained free from obstructions that would interfere with lift truck access to storage shelves.

Discussion: Storing boxes in aisles can result in the inability to position the order picker truck in the location needed to complete a task. When an operator is unable to position an order picker truck next to the shelf of the desired product, the operator may be motivated to unhook and step off the raised order picker truck onto the shelf and move along the shelf to the needed location. Eliminating boxes in the aisles provides the operator with a clear path to the needed shelf. Employers should also consider other work practices that would eliminate the motivation to unhook and step off raised order picker trucks. These might include storing boxes close to the front shelves, within arms-reach of the employee or the use of a long handled device (retractable for storage purposes) to move boxes from the back of a shelf to within reaching distance of the employee.

Recommendation #3: Employers should strictly enforce the safety precautions outlined in comprehensive safety programs and constantly review and update the programs and training.

Discussion: A comprehensive health and safety program is only effective if employers strictly enforce the program's safety precautions. Enforcing a safety program should include random inspections of employee work habits and penalties for employees not following required safety precautions. Penalties could start with unpaid time off for a first offence and lead up to being terminated for repeated offences.

Safety program information and the associated training should be reviewed at least once a year, and when safety concerns arise. In addition, the safety program should be updated when new equipment and new techniques are implemented along with retraining of the employees. Involving the employees in the creation and review of the safety program and training is important. The employer should ask the employees about and evaluate possible hazards associated with equipment and techniques involved in completing their tasks. The employees who spend the majority of their time in the warehouse performing tasks will be the ones affected the most by the safety program and training. These employees will know the most about the effectiveness, limitations, and inconveniences of required safety precaution, including personal protective equipment and training.

In this case, the body harness was a recent transition from a safety belt. An evaluation of possible hazards during this transition may have identified, the fact that some employees were not tying off or were unhooking when using the order picker trucks.

Recommendation #4: Manufacturers of high lift order picker trucks should consider equipping them with devices that will activate audible and visible alarms if the operator unhooks fall protection while the lift is raised.

Discussion: The operator's platform of the high lift order picker truck in this incident, is raised along with the forks of the lift so the operator can gather selected boxes of products. The manufacturer designed an overhead anchor point on the lift for the use of a lanyard, however in this incident it was not used. A system could be designed that prohibits the forklift from being raised if the operator's lanyard was unconnected from either themselves or the forklift anchor point. The system could be electronically designed so that if the operator were to unhook either end of the lanyard while the lift was raised it would activate audible and visual alarms alerting the operator and other employees of the safety hazard. This type of warning system in conjunction with a strictly enforced mandatory tie-off/no unhook policy may have prevented the victim from unhooking or using the order picker truck with out the fall arrest system.

REFERENCES

Code of Federal Regulations, Labor 29 Part 1910.178 Power Industrial Trucks.

American National Standards Institute, Safety Standards for Low Lift and High Lift Trucks, ANSI B56.1-1993, New York.

Figure 1 - High Lift Order Picker

