



# National Grain and Feed Association

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## NGFA Safety Tips: Grain Storage Piles

...Committed to promoting safety and health in the workplace...

### Storage Pile Hazards

Employees can be exposed to struck-by, caught-in, electrical, and slip and fall hazards when building, reclaiming, or working near grain storage piles. These hazards can be eliminated, controlled, or reduced through implementation of vehicle traffic control plans, vehicle work zones, machine guarding, electrical cord covers, and fall protection.



### Vehicle Traffic Control Plans

**Struck-by** incidents involve workers being struck by moving vehicles such as a semi-truck or payloaders. **Backover** incidents involve backing vehicles striking workers who are standing, walking, or kneeling beside or under vehicles. To prevent backover and struck-by incidents, grain handling facilities are encouraged to develop traffic control plans. Traffic control plans coordinate the flow of moving equipment in the work environment. The goal is to eliminate vehicles and employees from crossing paths. It is also important that traffic plans address vehicles exiting from receiving pits. Vehicles should exit the pits in a straight manner to eliminate tire and fuel tank damage.

### Vehicle Work Zones

Establishing vehicle work zones during storage pile construction and reclaim operations can also prevent backover and struck-by incidents. These incidents often result from pedestrians coming in proximity to payloaders. Vehicle work zones should be identified by:

- Posting signs to clearly direct vehicle and pedestrian traffic.
- Using visual warnings, such as caution tape, danger tape, or traffic cones, to define areas where moving vehicles are present.

Employees should not enter work zones unless they communicate with the vehicle operator and receive verbal permission prior to entry. The operator should place the vehicle in park until the employee safely exits the work zone. While employees are in a work zone they should:

- Wear high visibility/reflective clothing.

## NGFA Safety Program

- The NGFA is committed to promoting safety and health in the workplace and shares the Occupational Safety and Health Administration's (OSHA's) commitment to protecting employees.
- The NGFA's extensive efforts to enhance safety include unprecedented research and education efforts launched in the early 1980s that helped lead to a dramatic reduction in the number of fire and explosion incidents in commercial grain-handling facilities.
- Each year, NGFA jointly sponsors regional safety seminars with affiliated state and regional grain and feed associations. The one-day conferences focus on keeping grain handling employees safe.

- Maintain safe clearance from vehicles.
- Remain in the view of the vehicle operator.
- Anticipate sudden forward and reverse movement.
- Never place themselves between the equipment and a fixed object, such as a storage pile wall or portable stacker conveyor.

## Machine Guarding

Portable belt conveyors, such as stackers or receiving conveyors, pose hazards to employees performing housekeeping and maintenance activities. Hazardous belt conveyor equipment includes gravity take-ups, v-belt drives, tail pulleys, and rotating shafts. The following guarding requirements must be followed:

- Exposed parts of horizontal shafting seven feet or less from the walking-working surface must be protected.
- V-belt drives must fully encapsulate the v-belt drive assembly on the top, bottom, and both sides.
- Gravity take-ups should be enclosed on all open sides.
- Inward running points on tail pulleys must be guarded to enclose the sides, top, and back of the pulley.

Aeration fan blades can also expose employees to hazards. Aeration fan blades must be guarded to prevent employee contact with the rotating blades.

## Cord Protection

Damaged electrical cords can pose electrical shock hazards. Electrical cords on portable conveyors can be damaged by vehicle traffic. Cords should be inspected on a routine basis to identify damage and deterioration and repaired or replaced as needed. Cords can be protected using heavy duty cable protectors or covers.



## Fall Protection

The Occupational Safety and Health Administration (OSHA) requires that fall protection be provided when working at heights of 4 feet or more. Employees can be exposed to fall hazards while accessing and working on a storage pile. Falling from the ground pile structure can result in a fall greater than 4 feet. Fall protection methods such as portable or fixed railings or fall restraint systems should be used to prevent employees from falling from the storage pile. In addition, portable ladders, such as extension ladders, or fixed ladders should be provided to safely access the pile. Employees should also avoid walking on pile tarps that are wet or covered with ice and snow.

More safety information at [www.ngfa.org](http://www.ngfa.org)

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