



Agricultural Safety Fact Sheet



Preventing Farm Vehicle Backover Incidents

Backing up farm equipment and vehicles is a daily occurrence in the agricultural industry. Backover incidents occur when a backing vehicle strikes a worker who is standing, walking, or kneeling behind that vehicle. These incidents can be prevented. Backover incidents can result in serious injuries or deaths to farmworkers. Employers are responsible for maintaining a safe workplace for every worker. This fact sheet provides employers with information about backover hazards and safety measures.

Preventing or Minimizing Backover Hazards

Most backover incidents are due to the employer's failure to train vehicle operators and enforce proper backing up techniques and preventive safety measures. Employers should ensure that unnecessary backing up is avoided. In addition, employers should also ensure that both the operator and other workers are always aware of their surroundings. Moreover, employers should develop and require the use of alternate travel routes and backover safety systems, which are effective safeguards to prevent backover incidents.

Hitching Farm Equipment and Implements

Helpers often assist operators in backing up and hitching farm vehicles (e.g., truck or tractor). However, helpers working behind these vehicles risk becoming caught and crushed between the vehicle and the equipment being hitched. Employers should require the use of the following hitching and backing up safety measures.

Hitching operations without a helper:

- Inspect the equipment, including the hydraulic and electrical connections, drawbar hole and hitch pin, and the three-point hitch.
- Ensure that no one is standing or working behind the vehicle.
- If available, use the vehicle backup camera and alarm to ensure that objects are not in the vehicle's path.
- Back up the vehicle slowly to align the hole in the drawbar with the hole in the implement hitch.
- Stop and put the vehicle in park, or lock the brakes.



Farmworkers on foot are at risk of being backed over by a farm vehicle.

- If required, dismount to connect the electrical and hydraulic connections and safety chains.
- Hitch the equipment to the vehicle.
- Release the parking brake/lock, place the vehicle in gear and slowly drive away.

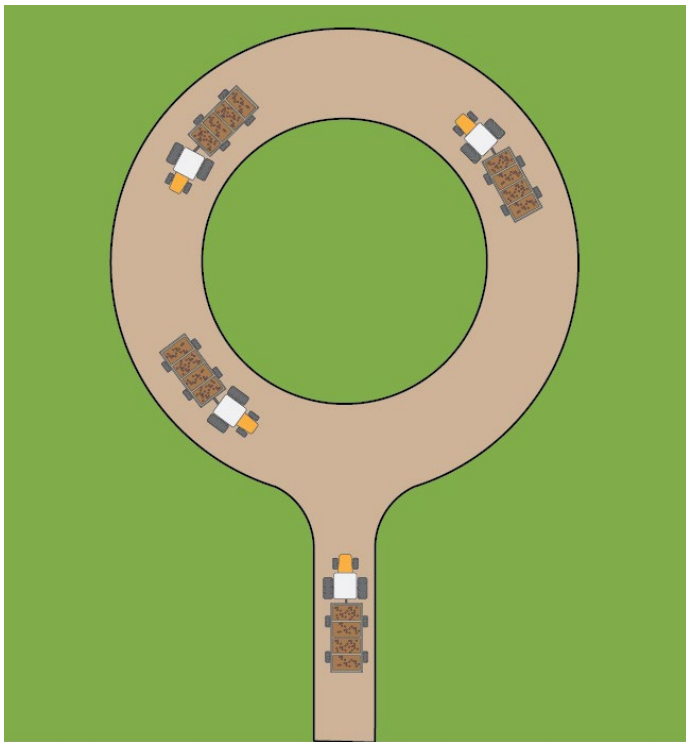
Hitching operations with a helper:

- Inspect the equipment, including the hydraulic and electrical connections, drawbar hole and hitch pin, and the three-point hitch connection if applicable.
- Ensure that coordinated ASABE hand signals are understood and used (see below for coordinated hand signals).
- Back up the vehicle at the slowest speed possible toward the equipment.
- Until the vehicle is stopped, the helper should stand outside the path of the vehicle.

- After the drawbar and equipment are aligned, stop and put the vehicle in park, or lock the brakes.
- Signal the helper that it is safe to approach the vehicle for a close inspection and to prepare for hitching operations.
- If required, attach the electrical and hydraulic connections and safety chains. Move the vehicle forward or backward a few inches, if needed, to allow the helper to drop in the hitch pin.

To prevent backover incidents, employers should:

- Regularly assess each work location to determine if a traffic control plan is needed.
- Establish drive-through or circular turnaround areas. If this is not possible, provide adequate space for operators to perform a three-point turn.
- Ensure that all turnaround areas are level, firm, and well-drained to prevent vehicles from tipping over.
- Determine if a backup camera or system is needed.
- Never allow workers to eat lunch or rest near active working vehicles and equipment.
- Identify where workers might stand or walk unexpectedly.
- Determine if a spotter is required.
- Instruct workers and operators not to use personal mobile phones, headphones or any items that could create a distraction.



A circular turnaround area is the safest way to allow safe entry and exit of farm equipment and vehicles.

Working Conditions

Working at night

The lack of light can increase the operator's blind spots, as well as impair his or her ability to see other workers. Employers should provide sufficient lighting for the worksite and vehicle, and require workers to wear reflectors or high-visibility vests to make them more visible.

Working in bad weather

Bad weather, such as heavy rain, can pose particular hazards to workers and operators. Strong rain can reduce the operator's visibility and make it very difficult to recognize workers and other vehicles that may be nearby. If the workers are at risk due to bad weather, employers should stop the work and ensure that the workers stay clear of moving vehicles until it is safe to return.

Training

Employers should train vehicle operators to:

- Become familiar with backing up hazards and worksite safety measures.
- Back up only when necessary and for as short a distance as possible.
- Check the surrounding area for obstacles, other workers, and equipment.
- Understand the limitations of their vehicles and equipment, and operate them only in the way they were intended to be operated.
- Keep mirrors clean and adjusted properly to minimize blind spots.
- Know the vehicle's blind spots — mirrors never give the entire view.
- Check that backup alarms, sensors, and cameras are functioning properly.
- Look under vehicles and trailers for workers; remember that some workers may not respond to verbal or mechanical warnings.
- Honk the vehicle's horn and turn on the 4-way flashers, if necessary when backing up.
- Roll down cab windows, and if necessary, open the vehicle's doors so that a person shouting can be heard.
- Understand that snow, mud, slush, or ice may prevent sudden stops and cause the vehicle to move in an unexpected manner.
- Understand that bad weather may compromise the operator's ability to hear or see warnings.
- Always back up at a slow speed and watch carefully in all directions.

Employers should train farmworkers on foot to:

- Stand where they can see the vehicle's mirrors whenever possible.
- Never go between a moving vehicle and any equipment that is hitched or being towed.
- Never stand or linger in a vehicle's path.
- Never rest or sleep next to or under an agricultural work vehicle or equipment.
- Inform other workers when vehicles are approaching.
- Listen for the vehicle's backup alarm and watch the vehicle's movement.

- Never assume that the vehicle's operator can see them.
- Never wear earbuds or headphones when working near farm vehicles and equipment.

Using Hand Signals and Spotters

Distance and noise can make voice commands very difficult to hear or understand in some agricultural locations. Agricultural hand signals have been developed for farm machinery operators by the [American Society of Agricultural and Biological Engineers \(ASABE/E19\)](#). Hand signals can prevent accidents and save time. Learning

American Society of Agricultural and Biological Engineers (ASABE/E19) Hand Signals



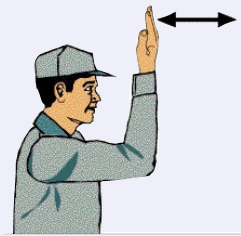
Start the engine. Move arm in a circle at waist level as though you were cranking an engine.



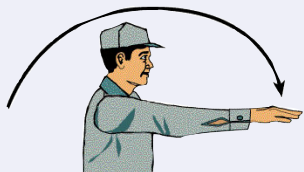
Stop the engine. Move your right arm across your neck from left to right in a "throat-cutting" motion.



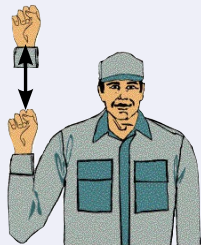
Come to me — may mean "Come help me" in an emergency. Raise arm vertically overhead, palm to the front, and rotate in large horizontal circles.



Move toward me — follow me. Look toward person or vehicle you want moved. Hold one hand in front of you, palm facing you, and move your forearm back and forth.



Move out — take off. Face desired direction of movement. Extend arm straight out behind you, then swing it overhead and forward until it's straight out in front of you with palm down.



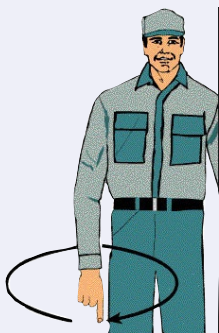
Speed it up — increase speed. Raise hand to left shoulder, fist closed. Thrust fist upward to full extent of arm and back to shoulder rapidly several times.



Slow it down — decrease speed. Extend arm horizontally at your side, palm down, and wave arm downward (45 degrees minimum) several times, keeping arm straight. Don't move arm above horizontal.



Raise equipment. Point upward with forefinger while making a circle at head level with your hand.



Lower equipment. Point toward the ground with forefinger of one hand while moving the hand in circular motion.



This far to go. Put hands in front of face, palms facing each other. Move hands together or farther apart to indicate how far to go.



Stop. Raise hand upward, arm fully extended, palm to the front. Hold that position until the signal is understood.

Images courtesy of American Society of Agricultural and Biological Engineers

hand signals will give workers and drivers an easy and effective way to communicate. Employers should train and require drivers and spotters to use the ASABE's hand signals in all agricultural operations, especially when noise or distance is a factor.

Vehicle Safety Devices and Warning Systems

Many safety devices and warning systems, including backup alarms, large backup lights, sensors, alarms that beep continuously while the vehicle is in reverse, and rear-view cameras, have come on the market and are now essential components of modern day farm vehicles. Older agricultural farm vehicles may lack these safety devices and systems. Planning ahead, establishing sound safety procedures, and adding safety warning devices to farm vehicles can help prevent backover incidents and injuries.

Workers' Rights

Workers have the right to:

- Working conditions that do not pose a risk of serious harm.
- Receive information and training (in a language and vocabulary the worker understands) about workplace hazards, methods to prevent them, and the OSHA standards that apply to their workplace. Review records of work-related injuries and illnesses.
- File a complaint asking OSHA to inspect their workplace if they believe there is a serious hazard or that their employer is not following OSHA's rules. OSHA will keep all identities confidential.
- Exercise their rights under the law without retaliation, including reporting an injury or raising health and safety concerns with their employer or OSHA. If a worker has been retaliated against for using their rights, they must file a complaint with OSHA as soon as possible, but no later than 30 days.

For additional information, see [OSHA's Workers page](#).

For questions or to get information or advice, to report an emergency, fatality, inpatient hospitalization, amputation, or loss of an eye, to file a confidential complaint, or to request OSHA's free on-site consultation service, contact your nearest OSHA office, visit www.osha.gov, or call OSHA at 1-800-321-OSHA (6742), TTY 1-877-889-5627.

For more information on ATV safety and other issues affecting farmworkers, visit OSHA's Safety and Health Topics Agricultural Operations website at www.osha.gov/dsg/topics/agriculturaloperations.

For assistance, contact us. We can help. It's confidential.



U.S. Department of Labor

This is one in a series of informational fact sheets highlighting OSHA programs, policies or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory-impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: (877) 889-5627.

