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Be aware of equipment blind spots to keep bystanders safe

By Brandi Janssen Jun 9, 2021 **Updated** Jun 11, 2021

Jake Kundert communicates with hand signals to assist equipment operator Claire Zabel at the Historic Johnson County Poor Farm in fall of 2020.

Photo courtesy Brandi Janssen

Although farmers have a reputation for working alone, in reality, farm work often requires teamwork. Especially when attaching implements to equipment, loading grain or livestock, or harvesting produce, having additional sets of hands usually helps the job go more smoothly.

However, having more people standing and working around equipment also invites new hazards to the job. Both equipment operators and bystanders should take responsibility for reducing the risk of back-over and run-over incidents, which can be deadly for the bystander.

A 2017 study conducted by researchers at Purdue University analyzed the conditions that led to injuries from incidents where farm equipment backed over a bystander or an obstacle. Using published reports of actual incidents, they found that both the operator and the bystander were at risk of injury. Operators were most likely to be injured when they were unaware of, or lost sight of, an obstacle in the vehicle's path. Bystanders were mostly likely to be crushed or run over when the operator lost visual contact with the bystander or was unaware that the bystander was present.

In addition, the most common sites of injury for the bystander were when they were located at the base of the machine's rear tires, at the hitching point, or behind a towed implement.

As with most farm-related injuries, the conditions that lead to an incident are complicated and a result of more than one factor. People may be working quickly to finish a job before the weather changes, there might be uneven or slippery terrain, or workers may not be as comfortable operating equipment as they should be.

One key factor for back-over and run-over incidents is that agricultural vehicles, including tractors, combines, sprayers, skid steers or trucks, commonly have poor sight lines and areas of low visibility, known as blind spots. One way to reduce the risk of serious injury or fatality is to ensure that both operators and bystanders are aware of blind spots and follow best safety practices.

Tips for drivers

First, operators need to identify the blind spots on their equipment, but they should also know that blind spots will vary depending on a number of factors. Different sizes and types of equipment each have unique blind spots. Tractors and sprayers — tall vehicles with large tires — have blind spots located directly in front and behind, as well as in front of the rear wheels. A skid steer has blind spots at the rear corners because of the hydraulic lift arms that can block the operator's view. So, even though it's a shorter machine, a skid steer has very large blind spots across much of the rear of the vehicle.

In addition, the height of both operators and bystanders will affect visibility. A taller operator will generally have a better field of vision than someone who is shorter. Likewise, a bystander who is short will be less visible than a taller person.

On any job site, the best way to keep people safe is to ensure a safe work environment rather than only relying on individuals to avoid hazards. Add back-up cameras or additional mirrors to equipment to reduce or eliminate blind spots and add back-up alarms to alert bystanders of a change in direction. In addition, think about traffic flow in farm yards and establish drive-through areas that have adequate space for a three-point turn. This will minimize the need to back up for long distances, reducing the risk of a back-over incident.

Tips for bystanders

Whether working or just observing on a farm, bystanders also need to be aware of farm vehicle blind spots and avoid them if at all possible. If a vehicle has mirrors, bystanders should stay where they can see them. Bystanders should never assume that the vehicle operator can see them and should not stop or linger in a vehicle's path.

One area of particular risk is between the vehicle and a piece of equipment that is being towed or hitched. According to the previously mentioned study from Purdue University, hitching equipment is a task that is especially dangerous for bystanders who are lending assistance. The researchers recommend putting the vehicle in park or turning it off while a co-worker approaches to hitch an implement.

Communication is key to a safe workspace. Operators and bystanders should have a conversation before the equipment is started so that everyone knows where the vehicles will need to be moving. They should use agreed upon hand signals to communicate while

Bystanders and operators should avoid using their phones or other devices and make regular eye contact with each other. If an operator loses sight of a bystander, they should stop the vehicle immediately.

Taking the time to remind yourself of equipment blind spots, even on vehicles you operate frequently, could prevent a catastrophic incident.

For more information about how to identify equipment blind spots and develop best practices for working around equipment, visit www.i-cash.org.

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