

HARVEST EQUIPMENT

(For assistance, please contact EHS at (402) 472-4925, or visit our web site at <http://ehs.unl.edu/>)

Farming is a dangerous occupation, ranking right behind mining for the highest number of accidents and fatalities annually. Many of the reported occupational injuries result from tractor rollovers and body entanglement in machinery. This SOP provides guidance for agricultural workers to avoid becoming a statistic while using harvesting equipment. Refer to EHS SOPs, **Tractor Safety**, **Tractor Safety – Power Take-Offs**, **Roll-over Protection Structures (ROPS) for Tractors**, and **Grain Wagons** for topic-specific guidance.

Required Safety Rules

- Do not rush to complete tasks or take short cuts. Farming injuries and fatalities are often the direct result of actions taken in haste.
- Always stay alert. If for any reason your ability to remain alert is compromised, do not operate harvesting equipment.
- Shut off all farm machinery before exiting the vehicle.
- Be familiar with the equipment that is being operated. Keep a copy of the operator's manual in the vehicle and observe all safety and preventative maintenance recommendations.
- Observe the operation specific safety guidelines provided below.
- Prior to initiating work, determine if other employees, visitors, or animals will also be in a field where harvesting equipment will be used. Warn individuals where harvesting equipment will be used and avoid altering field harvesting plans without giving prior notice to supervisors or others who might be in the field. It is the equipment operator's responsibility to watch for humans and animals in the field and to avoid injuring pedestrians.
- Allow passengers only when the vehicle is specifically designed for such use (i.e., manufacturer supplied passenger seat).

Servicing

Fifty percent of injuries involving harvesting equipment occur during cleaning, maintenance, or adjustment of the equipment.

- Ideally, equipment should be made harvest-ready in the off-season. It may take time to get machinery into safe, efficient operating condition.
- Before performing service, lower the header to the ground, place the machine in park or neutral, set the brake, turn off the engine, and remove the keys. Observe

all precautions stated by the manufacturer in cases where the owner's manual specifies a service or maintenance operation that must be conducted with the engine running or the header raised.

- Never clear a clogged harvester with the machine running.
- Do not place yourself beneath harvester headers without assuring they can't come down. Use the manufacturer's hydraulic cylinder safety stops, solid blocks, or other failsafe protective devices.
- Let the forage harvester knives stop rotating on their own before opening the access doors to work on them. Consider lockout devices to prevent injury from accidental startup or stored energy.
- Always follow the manufacturer's recommendations when sharpening forage harvester knives, or when replacing knives, forage blower blades, or combine cylinder bars. Be sure to torque the knife, blade, or bar attachment bolts to specifications. A loose bolt, nut, or part can become a lethal projectile.

Road Safety

- Make the vehicle as narrow as possible by adjusting hitches, folding unloading augers, or removing headers.
- Equip the harvester with bright, reflective slow moving vehicle (SMV) signs.
- Use warning lights when possible.
- Signal all turns. Older models will require hand signals.
- Don't drive on the shoulder where terrain may be rough and cause tipping. To allow vehicles to pass, wait for a safe place and pull off the road and stop. If the vehicle starts to tip, steering down to the ditch may prevent a complete overturn.
- To prevent loss of control when going downhill, leave harvester in mid range or low range. Do not put into neutral or leave in high gear.
- Consider having an escort vehicle, especially if the trip requires left turns.
- Slow down when traveling on the highway with a full grain tank. Take extra care on turns.

Field Operation

- Be aware that the stability of the vehicle changes as the tank fills with grain. The center of gravity becomes higher and the vehicle will be more prone to tipping, especially with high speeds and turns. Do not extend the height of the grain tank beyond what is recommended by the manufacturer.
- When operating on hills, make wide turns.
- Carry a cell phone or other communication device (i.e., two-way radio) for emergency use only.
- Never stand behind or beneath the discharge spout of an operating crop harvester. Hard objects coming out of the spout become dangerous projectiles.

Fall Prevention

Falls result in a significant number of farm related injuries. A fall from a combine can be as much as 14 feet, and may result in serious injury.

- If a machine must be serviced in the field, take time to clean the crop dust and debris from the steps and platforms, and wear shoes with a solid, slip-resistant tread. Good traction will reduce the chance of slipping and falling.
- Be extremely alert if working in or after rain. Wet shoes make it easier to slip and fall when getting on and off the equipment.

Fire Prevention

Harvesters can be fire hazards. Chaff and other bits of plant material can be ignited by engine components or from the heat of failing bearings or slipping belts. Reduce fire hazards by:

- Keeping belts tight.
- Frequently removing dust and chaff buildup.
- Checking bearings regularly.
- Equipping tractors with a multi-purpose (A-B-C) fire extinguisher (5-pound minimum, 10-pound is better). Consider carrying a 2 1/2- or 5-gallon pressurized or pump, type A fire extinguisher on combines. These extinguishers are better than type A-B-C extinguishers on type A fires (chaff and plant material) in windy conditions.