

ROLL-OVER PROTECTIVE STRUCTURES (ROPS) FOR TRACTORS

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

Newly purchased agriculture tractors, defined as a two or four-wheel drive type vehicles, or track vehicles, of more than 20 horsepower, designed to furnish the power to pull, carry, propel or drive implements, must be provided with roll-over protection structures (ROPS). Low profile tractors, (highest point of the hood is less than 60 inches, tractor chassis clearance from ground does not exceed 18 inches, front wheel spacing is equal to rear wheel spacing) used in orchards, vineyards, and on the inside of a greenhouse, are not required to have ROPS.

ROPS are designed to protect the operator in the event of a tractor rollover. These structures, which include roll-bar, frame, and roll protective cab designs are important for preventing rollover injuries/fatalities. Strong consideration should be given to retrofitting older tractors, when retrofit kits are available from the manufacturer. Review and follow the recommendations in the owner's operational manual, as well as those listed below.

- ROPS design must meet the applicable American Society of Agricultural Engineers (ASAE) Standards and Society of American Engineers (ASE) Standards as listed in OSHA 1928.51(b)(1).
- Tractors should be provided with a seat belt to sufficiently confine the tractor operator to the area protected by the ROPS.
- In the event of an overturn, protection must be provided to the tractor operator from spillage from batteries, fuel tanks, oil reserves, and coolant systems.
- Protection should be provided from sharp edges and corners in the event of an upset.
- Departments should have the UNL Purchasing Department approve their order for new tractors to assure proper ROPS and seatbelt are provided.

Tips for Reducing the Risk of a Side Rollover:

- Set wheels as far apart as possible.
- Lock the brake pedals together before high-speed road travel.
- Match speed to operating conditions and loads. Do not let the front wheels bounce.
- Slow down before turning.
- Use engine braking when going downhill.
- Avoid crossing steep slopes. Watch for depressions on the downhill side and bumps on the uphill side. Turn downhill, not uphill, if stability becomes a problem.

- Stay at least as far from ditches and rivers as banks are deep.
- Keep front-end loader buckets as low as possible when moving.
- If right front tire goes off the road into the ditch – turn downward rather than attempting to turn back onto the roadway.

Tips for Reducing the Risk for Rear Overturn:

- Always hitch loads at the drawbar.
- Use front weights to increase tractor stability.
- Start forward motion slowly and change speed gradually.
- If possible, avoid backing downhill.
- Drive around ditches.
- Back out or be towed out of ditches or mud.

Additional Safety Reminders:

- Install and use seat belts on tractors with ROPS.
- ROPS do not prevent rollovers from occurring.
- Most rollovers involve tractor speed, operator error, or unsafe driving conditions.
- Follow safety steps to prevent rollovers.