

Machinery Guards

Manufacturers of machinery and equipment are today legally required to make sure dangerous parts are safely guarded so that operators and others are protected from injury.

But old farm machinery is sometimes poorly guarded. Extra moving parts like wheels and pulleys may have been added for various other uses. Original guarding may have been removed for maintenance and not put back.

There may be times when an operator may need to reach over, under, around or into a machine while it is running. If so, any moving parts or other hazards must be appropriately guarded from human contact.

A guard may be any shield, cover, casing, or physical or electronic barrier, intended to prevent contact between a hazardous machine part and any part of a person or a person's clothing.

Spot the hazard

Some of the hazards associated with machinery likely to cause injury include:

- rotating PTO and other shafts (e.g. joints, couplings, shaft ends and crank shafts);
- gearing (including friction roller mechanism), cables, sprockets, chains, clutches, cams or fan blades;
- the run-off point of any belt, chain or cable. All belts are hazardous, especially if joints are not kept smooth.
- keyways, keys, grease nipples, set-screws, bolts or any other projections on rotating parts;
- any pulley or flywheel that incorporates any openings, spokes, protrusions, etc, that render it anything except totally smooth;
- any crushing or shearing points, e.g. augers and slide blocks, roller feeds, conveyor belts;
- ground wheels and track gear that incorporate protrusions, spokes, etc, that are adjacent to an operator's position (standing platform, seat, footrest) or passenger's seat;
- rotating knives, blades, tines or similar parts of power driven machines that operate in or near the ground or engage crops;
- any machine component that cuts, grinds, pulps, crushes, breaks or pulverizes farm produce;
- hot parts of any machine where the surface temperature exceeds 120C in normal operation.

Assess the risk

Once a hazard has been identified, assess the likelihood of the hazard resulting in injury to the operator or any other person, and the likely severity of any injury or harm.

Make the changes

Ensure machinery guards:

- are designed in a practical way to protect the user but allow ready access for operation and maintenance;
- are always in place on dangerous parts of machinery unless they are, by any reasonable definition, located out of reach of users, operators or bystanders;
- are conveniently placed so that users, operators and service and maintenance people are less likely to remove them permanently;
- are strong and durable enough for the machine part they cover;
- protect users, operators and bystanders against burns caused by hot parts;
- are ventilated where applicable to avoid the machine over-heating;
- are not removed until the machine is stopped and isolated with a tagged lock-out switch, and all sources neutralized, e.g. pressure in the hydraulic, or LPG gas line.

Children and machinery

Children on or visiting the farm are often at risk of being injured by machinery. Minimize the risks, teach your children about safety on the farm, and get them to tell their friends.

- Agricultural machinery is not a playground. Make sure guards are on machines, especially when children are around;
- Be aware that children's fingers can sometimes reach into guarding designed for adult hands.

Safe procedure

Stick to a safe procedure for machinery guarding.

- For maintenance jobs, have a checklist procedure ensuring guarding is safely replaced.
- Use approved lock-out and tag devices to prevent machinery being accidentally started during maintenance.
- Redesign work processes to minimize risk from moving parts.
- Get rid of machinery and eliminate work processes that can't be made safe.
- Replace unguarded machinery with safer machinery.
- Have guards designed and fitted for improvised machinery.