

Work environment – Rural safety

Machine guarding >

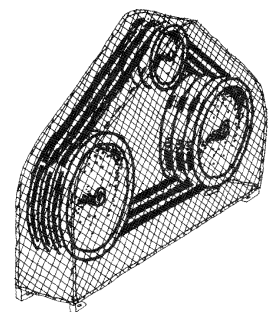
This bulletin outlines some simple safety tips in guarding farm machinery and is one a series on rural safety.

Ensure adequate guarding

Machinery on farms can be extremely hazardous unless it is adequately guarded.

Guarding aims to increase the personal safety of operators and others involved in the normal operation, servicing and maintenance of machines.

When using machines there may be a time when an operator must reach over, under, around or through the machine. Any hazards that can be contacted by these movements must be guarded against and appropriate guarding put in place.



The use of guarding

Australian Standard [AS 2153](#) “*Tractors and machinery for agriculture and forestry*” provides advice on the guarding of agricultural machinery.

Risk management means:

- Step 1: Identify the hazards.
- Step 2: Determine potential effects of the hazard.
- Step 3: Assess the risk.
- Step 4: Determine appropriate control measures.
- Step 5: Implement and review risk control measures.

A Guard is any shield, cover, casing or physical barrier which by reason of its form or its location is intended to prevent contact between that machine part and a person or, part of that person’s clothing.

Following is a list of hazardous parts which are likely to cause injury:

- Any rotating shafting (including joints, coupling, shaft ends and crank shafts), gearing (including friction roller mechanism), cable, sprocket, chain, clutch, coupling, cam or fan blade.
- The run-on point of any belt, chain or cable. Belts are not of themselves to be considered hazardous, provided that their joints are smooth and without hazardous projections or jointing.

putting safety first >

- 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 other than totally smooth.
- Any crushing or shearing points, eg augers and slide blocks, roller feeds, conveyor feeds.
- Ground wheels, and track gear that incorporates protrusions, spokes, etc which are adjacent to an operator's position (standing platform, seat, footrest) or passenger's seat.
- Rotating knives, blades, tines or similar parts of power-driver machines which operate in or near the ground or engage crops
- Any machine component which cuts, grinds, pulps, crushes, breaks or pulverises farm produce.
- Hot parts of any machine whose surface temperature exceeds 120°C in normal operation.

Reduce the risks

As a general rule, guards should:

- be designed in a practical way to protect the user but allowing easy access;
- be in place on dangerous parts of machinery unless they are, by any reasonable definition, located out of reach of users, operators or bystanders;
- be conveniently placed so that users, operators and service and maintenance persons are less likely to remove them permanently;
- have strength commensurate with their usage and durability commensurate with the machine;
- protect users, operators and bystanders against dangers caused by ejected material;
- protect users, operators and bystanders against burns caused by hot parts;
- be ventilated where applicable to avoid the machine overheating;
- not be removed before the machine is stopped, isolated and all sources neutralised, eg pressure in the hydraulic, LPG, gas lines.

Children and machinery

Children on or visiting your farm are often at risk of being injured in an accident. Minimise the risks, teach children about safety on the farm.

Agricultural machinery is not a playground. Make sure guards are on machines, especially when children are in the vicinity. Accidents on farms are preventable, little fingers can reach into places you may not realise is possible.

Guarding increases personal safety.

Reduce or eliminate risk by:

- redesigning work processes;
- using correctly designed and properly fitted equipment;
- replacing machinery, material or processes with less hazardous ones.

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**GPO Box 1722
Darwin NT 0801**

Telephone: 1800 019 115
Facsimile: (08) 8999 5141
Email: ntworksafe@nt.gov.au
Website: worksafe.nt.gov.au