



Farm Safety Association
March 2000
Tailgate-Equipment Hazards

Recognizing common farm equipment hazards

Instructor: *The following script can be used to deliver a 15-minute training session to employees. You may wish to use some pieces of farm equipment as props, so that you can point out examples of the various hazards.*

The text emphasizes important points related to preventing contact with operating farm machinery. It is suggested that you try to stay strictly on topic. Obviously, you will need to be prepared to answer questions.

POINTS TO EMPHASIZE:

- **ALWAYS shut off the power and wait for all parts to stop moving before servicing or unplugging a machine.**
- **Ensure that all guards and shields are in place and well maintained.**
- **Read the warning decals affixed to farm equipment.**

Be aware of the danger

Operating farm equipment presents a serious threat to life and limb. You need to be able to recognize machine hazards, and take the appropriate steps to protect yourself.

When working with farm equipment, accident prevention depends on:

- Knowledge of hazards.
- Keeping all guards and shields in place and well maintained.
- Heeding the warnings spelled out on the various decals affixed to equipment.
- *Always* disengaging the power, shutting off the engine, pocketing the key, and waiting for all parts to start moving before doing any kind of work on a machine.

Recognize common equipment hazards

A multitude of different machines are used in a typical farm operation. However, the major farm equipment hazards are common to all makes and models.

All farm workers should learn to recognize the following hazard points on farm equipment, and take appropriate actions to avoid accidental contact.

1. **Pinch points** exist where two parts move together, with at least one of them turning in a circle. Examples include chain drives, belt drives, gear drives, and feeder rolls. Clothing can become caught and drawn into a pinch point. Never reach into the area near a rotating part. Fingers, hands, or

other body parts can easily be severed by a pinch point.

2. **Pull-in accidents** happen when a person tries to unclog or feed material by hand into an operating machine. Feed rolls and other machine components are simply too fast. They will pull you in and mangle you before you can react and let go.

3. **Wrap points** exist wherever there is an exposed, rotating shaft. Once material is caught by the shaft, there is no escape. Important wrapping hazards include:

- shaft ends which protrude beyond bearings.
- splined, square and hex-shaped shafts are most likely to wrap hair or clothing. However, even the smoothest rotating shaft can grab and wrap.
- couplers, u-joints, keys, and other fasteners on shafts increase the wrapping hazard.
- exposed beaters and pickup reels are also a wrapping threat.

4. **Shear points** exist where the edges of two components move across each other (like scissors). A **cutting point** is created when an object moves forcefully enough to cut relatively soft material. Shearing and cutting devices are widely used on harvesting equipment. The active parts may rotate (rotary mower) or reciprocate (sickle bar). Cutting and shear points also exist on several devices that are not designed to cut material. Just think about the point where auger flighting enters the tube, or a hinged implement frame.

5. **Thrown objects**—some farm machines can propel objects great distances with tremendous

force. Rotary mowers and flail choppers can hurl small stones and other debris. Combine straw choppers and hammermills can fling kernels and other crop material with considerable force.

6. **Freewheeling** parts on farm equipment may continue to rotate for two minutes or more after power is disengaged. Examples include forage harvester cutterheads, hammermills, baler flywheels, rotary mowers, and blower fans. Injury occurs when an impatient person reaches in to unclog or service the equipment before the freewheeling part stops moving.

7. **Crush points** are created when two objects move toward each other, or when one object moves toward a stationary item. A crush point exists between an implement tongue and a tractor drawbar. Other examples of potential crush points include jacked-up equipment, raised hydraulic components, and overhead garage doors.

Recognition, avoidance, prevention

To prevent farm equipment accidents, you first must learn to recognize the hazards that these machines present. Develop good safety habits to ensure that you have no contact with operating machinery.

- Under no circumstances should you *ever* reach into any part of an operating machine. *Always*

disengage power, shut off the engine, take the key, and wait for all parts to stop moving before attempting to service or unplug equipment.

- All guards and shields must be in place and properly maintained. Replace all shielding that was removed to make repairs.
- When hitching equipment, the helper should stand clear until the tractor is backed into position. Always inch the tractor forward (never backward) to make necessary positioning adjustments.
- Bystanders should be kept away from areas where they could be struck by thrown objects.

It is vital to “THINK” about actions before you take them. For example, no one can react quickly enough to let go of a corn stalk that is suddenly pulled in by harvester feed rolls. The bottom line is that you must never attempt to do any kind of work on farm equipment while the power is engaged.

Are there any questions?

Finally, let’s take a moment to review some of the “Do’s” and “Don’ts” of farm equipment accident prevention.

DO

Wait for all motion to stop before adjusting or unplugging equipment.

Replace damaged or missing shields before using equipment.

Insist that children and bystanders stay well clear of operating machines

DON'T:

Try to remove a twine that is partially wrapped around a shaft.

Work under raised equipment unless it is securely blocked.

Kick a wad of hay into a baler pickup.

The information and recommendations contained in this publication are believed to be reliable and representative of contemporary expert opinion on the subject material. The farm safety Association Inc. does not guarantee absolute accuracy or sufficiency of subject material, nor can it accept responsibility for health and safety recommendations that may have been omitted due to particular and exceptional conditions and circumstances.

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Farm Safety Association Inc.
22-340 Woodlawn Road West, Guelph, Ontario N1H 7K6 (519) 823-5600

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