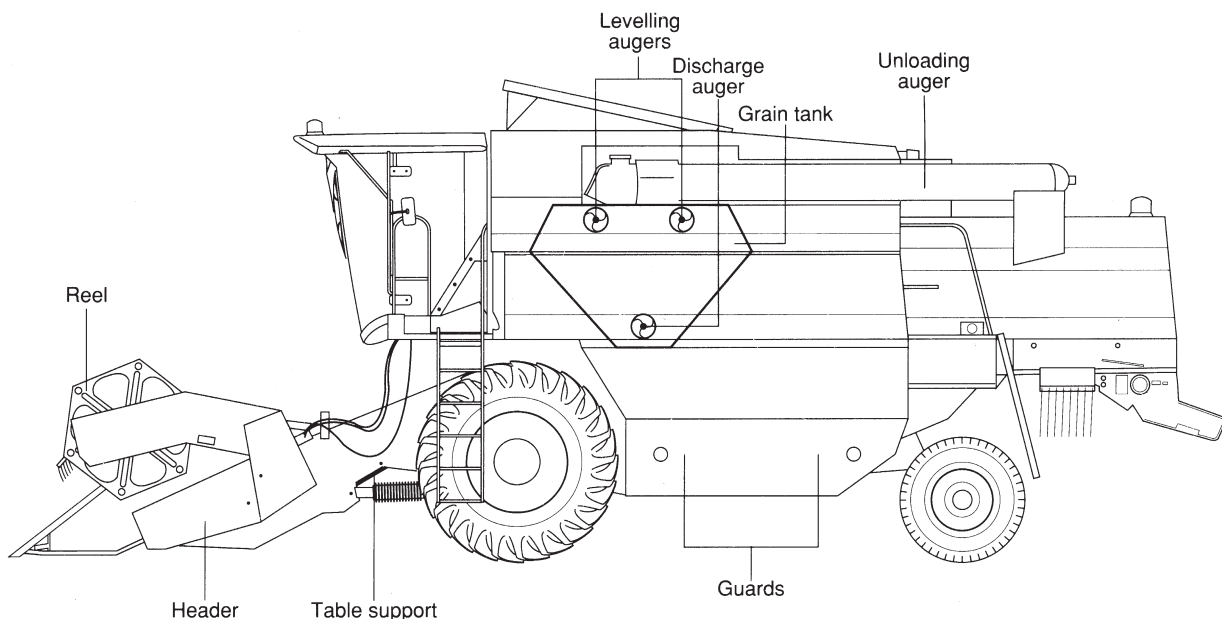


Safe use of combine harvesters

HSE information sheet

Agricultural Information Sheet No 6 (Revision 2)



Note: The overall height of the machine above ground may exceed 5.2 m (the minimum height of overhead power lines)

Introduction

This information sheet describes typical hazards associated with the use of combine harvesters (combines). It provides guidance on minimising risks to the operator and others during work with combines and is intended to help employers, employees and the self-employed comply with their duties under health and safety legislation. It does not cover the risks to health from exposure to grain dust (see Further information).

Different types of combine have particular features which should be taken into account when considering the hazards, risks and precautions. This information sheet covers the typical hazards likely to be found when using most types of combine.

Hazards

Many fatal and serious injuries occur when operators are pulled into the machine at the reel/header unit.

The greatest risk of injury comes from contact with the machine's moving parts including:

- being pulled into the cutting mechanism;
- contacting the knife, reel or stripper rotor;
- being injured by the drive mechanisms or trapped when automatic sensors operate;
- becoming entangled with the levelling or discharge augers in the grain tank;
- contacting the straw chopper or spreader mechanism at the rear.

Other risks created by work with combines include:

- contacting overhead electricity power lines;
- being run over;
- being trapped under the header or injured by the header falling from its transport trailer;
- falling from the combine, especially during pre/post-season cleaning, maintenance or refuelling;
- fires;
- noise.

Control measures

It is extremely dangerous to carry out any work on a machine while it is under power. The most important safety measure is to follow the 'safe stop' procedure before carrying out any maintenance or adjustments, including dealing with a blockage or other problem:

- Handbrake on
- Controls neutral
- Stop engine
- Remove key

Many serious and fatal accidents have occurred where operators have tried to clear blockages or worked on the machine with the engine running or power engaged. So always make sure you follow the safe stop procedure.

General guidance on safe working practice

Employers and operators of combines should follow the general precautions set out below to ensure the safe operation of the machine:

- Check all guards are in position and correctly fitted before starting work. Do not run the combine with the guards raised or removed.
- Make sure you, your employees, relief drivers, seasonal workers or contractors are properly trained in how to use the combine safely. Make use of relevant training courses such as those provided by manufacturers/suppliers.
- Never carry passengers on the combine unless seated in a proprietary passenger seat and do not mount or dismount the combine when it is moving.
- Children under 13 years of age must not drive or ride on combines.
- Make sure you keep reversing mirrors clean and properly adjusted.
- Combines are bulky vehicles and operator vision to the rear may be poor so be particularly careful when reversing. Sounding the horn before starting the engine or reversing can help alert others.
- Remember the hazards posed by straw choppers and spreaders – allow adequate rundown time before approaching the rear of the combine.
- Ensure any pedestrians are clear before moving off.
- When unloading the combine on the move you will need to plan and coordinate your movements carefully to match the tractor/trailer combinations working with you.
- Keep the cab door shut to keep out dust and noise.
- Make sure operators are aware of the risks and the safe operating procedures and are provided with the operator's manual.
- Use any grain sampling mechanism provided.

- Take care on slopes and avoid sudden changes of direction. Park on flat ground where you can. If you must park on a slope, park across it. Brake and turn with care on downhill and side slopes.

Dealing with blockages

When attempting to clear blockages the following precautions should be taken:

- Do not reach into the header with an arm or leg, attempt to clear a blockage, or climb or reach into the grain tank unless you follow the safe stop procedure.
- Develop a safe system of work for dealing with any problems that arise with the combine. This may be written down and form part of your written safety policy or risk assessment but should include as a minimum a safe system for clearing any blockages that occur.
- Follow the procedures set out in the operator's manual for safe operation, maintenance, dealing with blockages and other problems.
- Use your instruments and watch and listen for potential blockages – avoiding blockages is easier than clearing them.
- Be patient when working in difficult crop conditions such as in laid crops (lodging), unfamiliar crops or fibrous crops like linseed.
- Reversing drive mechanisms, when fitted, can wind out blockages.
- Do not operate the machine beyond its capacity (ie don't overload it).

Precautions for work near overhead power lines (OHPLs)

Contact with power lines can be fatal. Assess the risks from OHPLs before starting work and use a safe system of work for harvesting fields where they are present. Factors to consider will include:

- the minimum height and location of the OHPLs in the fields where harvesting will take place;
- the height of the combine to be used measured from the ground to the highest point (including any extensions on the machine);
- remember that radio aerials, grain tank extensions and unloading augers/spouts will increase the overall height of the combine;
- safe travel routes between fields/work sites which take into account safety clearance distances.

To work safely:

- Provide operators with instructions and training, including information on the location and heights of OHPLs (farm maps will help).
- Provide operators with information about the risks and the action to take in the event of contact with an OHPL, including emergency contact numbers.
- Use safe operating procedures in the vicinity of OHPLs, eg when unloading.
- Never park the combine, carry out maintenance, or extend the discharge auger when under or near OHPLs.
- If you are using a contractor to carry out the work you should discuss and agree the system of work to be followed before they begin working, and provide information about the location of OHPLs on your land.
- Display suitable warning signs as in a prominent position within the cab.

For more advice on safe working near OHPLs, see Further information.

Maintenance

Many serious incidents occur during the maintenance of combines. Employers and operators should:

- Reduce the risk of falls by always using the access ladders, steps and/or standing platforms provided by the manufacturer.
- Provide and use suitable access equipment if it is necessary to work at height during cleaning and maintenance operations.
- Use correct tools and a knife guard to aid safe removal, handling and storage of the cutting knives.
- Follow correct procedures for working under the header (use the supports provided) and when transferring the header on and off the transport trailer.
- Regularly clean straw and chaff deposits from the engine compartment and around belts and pulleys to reduce risk of fire.
- Carry suitable fire extinguishers. These should be regularly checked and properly maintained/serviced.
- Remember that machines fitted with yield measuring meters using an ionising radiation source need additional safety procedures which must be laid down, clearly understood and implemented.

Further information

Working safely near overhead electricity power lines AIS8(rev3) HSE Books 2012 www.hse.gov.uk/pubns/ais8.htm

Working safely with agricultural machinery Leaflet INDG241(rev1) HSE Books 2012 www.hse.gov.uk/pubns/indg241.htm

Controlling grain dust on farms AIS3 HSE Books 1996 www.hse.gov.uk/pubns/ais3.htm

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This document is also available at www.hse.gov.uk/pubns/ais6.htm

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