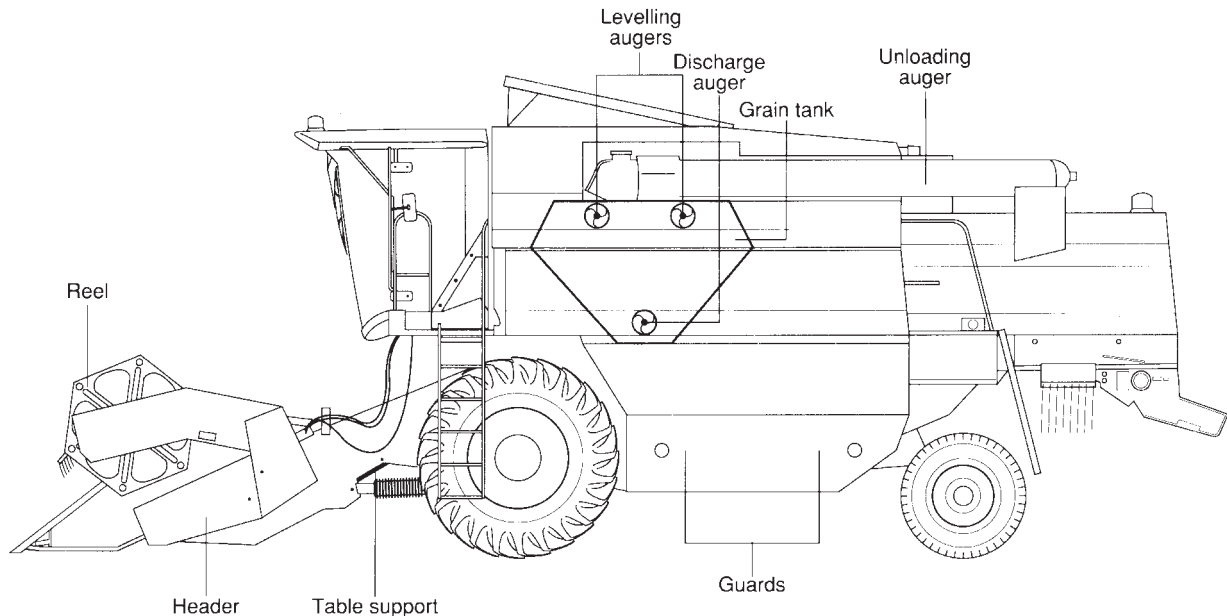


Safe use of combine harvesters

HSE information sheet

Agriculture Information Sheet No 6



Introduction

This information sheet is based on the accidents investigated by the Health and Safety Executive (HSE) and a general risk assessment for combine harvesters (combines). It lists some of the hazards arising from their use and gives advice to anyone working with them on how to use them safely.

Between 1996 and 2006, HSE investigated over 60 incidents involving combine harvesters in which 10 people died and another 40 were injured. Six people were killed when the combine ran over them. Another 4 deaths and 14 serious injuries resulted from clearing blockages or working on the combine while it was running. Slips, trips and falls from the combine accounted for another 15 injuries.

You need to identify the risks and put precautions in place to reduce them. 'Safe Stop' is the most important safety action of all:

- Handbrake on.
- Controls in neutral.
- Stop engine.
- Remove the ignition key before entering the grain tank, working behind, inside or under the machine.

Different types of combine, eg rotary or stripper header, may have particular features which you should consider when you assess the risks and decide on appropriate precautions.

- Make sure operators are aware of the risks and the safe operating procedures and are provided with an instruction manual. This should give instructions on safe use of the machinery, clearing blockages and the recommended procedure for cleaning the combine and grain tank between crops.
- Make sure you, your employees, relief drivers or contractors are properly trained in how to use the combine safely and have seen this sheet.
- Make use of relevant training courses (such as those run through Lantra Awards, agricultural colleges and manufacturers/dealers). They will help ensure the safe and efficient use of your combine.

Hazards

The hazards are:

- becoming entangled with the levelling or discharge augers in the grain tank;

- falling from the combine, especially during pre/post season cleaning;
- contacting overhead power lines (OHPLs);
- being run over;
- contacting the knife, reel or stripper rotor;
- contacting the straw chopper or spreader;
- being trapped under the header or injured by the header falling from its transport trailer;
- being injured by the drive mechanisms or trapped when automatic sensors operate;
- dust;
- fires;
- noise.

Don't:

- climb or reach into the grain tank unless the engine and all augers are stopped, and the ignition key has been removed;
- climb round areas of the combine unless a purpose-designed access is available (eg steps, standing area etc);
- carry passengers on the combine unless seated in a proprietary passenger seat;
- let people jump on or off your combine when it is moving;
- work under an unsupported header;
- carry out maintenance or try to adjust automatic sensors with the engine running;
- park, carry out maintenance or extend the unloading auger when under or near OHPLs;
- run the combine with the guards raised or removed;
- allow children on or near the combine;
- brake harshly, especially on slopes.

Do:

- make sure anyone working on the combine has read and understood the instruction book;
- carry out the 'Safe Stop' procedure before carrying out any maintenance;
- have a system for thorough pre-season maintenance checks to ensure that all brakes, guards and other safety devices are in effective working order;
- use any grain sampling mechanism provided;
- have a safe system of work for combining fields where there are overhead power lines (OHPLs). This may form part of your written safety policy, but should include as a minimum:
 - knowing the height of your machine (at the highest point) and OHPLs. (Remember aerials etc will affect the overall height of your combine.)A warning sign as a visible reminder in a prominent position is a good idea;

- using appropriate farm maps as reminders when daily work is being planned;
- agreeing routes for travel with the local electricity supply company which take into account safe clearance distances;
- follow correct procedures for working under the header (use the supports provided);
- follow correct procedures when transferring the header on and off its transport trailer;
- provide and use correct tools and a knife guard to aid safe removal, handling and storage of the cutting knives;
- work with the cab door shut (this helps control dust and noise);
- be particularly careful when reversing – make sure you can see what is behind you. Sound the horn before starting the engine or reversing;
- wear slip-resistant footwear and avoid wearing loose clothing;
- take care on steep ground and avoid sudden changes of direction. Brake and turn cautiously on downhill and side slopes;
- park across slopes if possible and ensure the handbrake is fully applied before leaving the vehicle;
- make sure all guards are in position and correctly fitted before starting work;
- regularly clean straw and chaff deposits from the engine compartment and around belts and pulleys;
- make sure there is suitable fire-fighting equipment (eg a fire extinguisher) available on the combine (and that the extinguisher is regularly checked).

General

- Use suitable access equipment and take precautions for work at height during cleaning and maintenance operations.
- Be patient when working in difficult crop conditions such as laid crops or unfamiliar fibrous crops like linseed.
- Don't operate the machine beyond its capacity (ie don't overload it).
- Use your instruments and watch and listen for potential blockages – avoiding blockages is easier than clearing them.
- Use drive reversing mechanisms, when fitted, to wind out blockages.
- Remember the baler operator – try to avoid leaving heaps in the swath.
- Remember the hazards posed by straw choppers and spreaders – allow adequate run-down time before approaching the rear of the combine.
- Combines fitted with yield measuring meters using an ionising radiation source need additional safety procedures which must be laid down, clearly

understood and implemented. (There may be additional legal obligations when these devices are fitted.)

- Exposure to high levels of grain dust causes ill health, including occupational asthma, farmer's lung, grain fever, chronic bronchitis, allergic eye and nasal infections. Close the cab door or use respiratory protective equipment.
- Make sure the cab filter is of the type recommended by the manufacturer and is fitted and maintained in accordance with the manufacturer's instructions.
- When unloading on the move consider the other driver and avoid sudden manoeuvres.

The law

Manufacturers and suppliers have responsibilities under the Supply of Machinery (Safety) Regulations 1992 (as amended) or section 6 of the Health and Safety at Work etc. Act 1974 to supply an adequately guarded machine. They should also have considered BS EN ISO 4254-1 and BS EN 632 (to be superseded by BS EN ISO 4254-7).

The Health and Safety at Work etc Act 1974 and the Provision and Use of Work Equipment Regulations 1998 place duties on employers, employees and the self-employed to ensure their own and others' health and safety.

Further reading

Controlling grain dust on farms Agricultural Information Sheet AIS3 HSE Books 1996

BS EN ISO 4254-1:2005 *Agricultural machinery. Safety. General requirements* British Standards Institution

BS EN 632:1996 *Agricultural machinery. Combine harvesters and forage harvesters. Safety* British Standards Institution

Further information

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e-mail: hse.infoline@natbrit.com or write to HSE Information Services, Caerphilly Business Park, Caerphilly CF83 3GG.

This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

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