Introduction

Between 1986 and 1995, HSE investigated over 80 accidents involving combine harvesters. Ten people were killed and more than 70 were seriously injured in these accidents which included the deaths of four people and 13 who were seriously injured after coming into contact with the augers in the grain tank. Falls from the combine accounted for a further death and 13 serious injuries.

This information sheet is based on the accidents investigated by 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.

The risks should be identified and precautions put in place to reduce them.

Different types of combine, eg rotary or stripper header, may have particular features which should be considered 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 the safe use of the combine and have seen this sheet.
- Make use of relevant training courses (such as those run through Lantra, 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;
- 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;
- 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 with the engine running;
- park, carry out maintenance or extend 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;
- stop the engine, put all controls in neutral and pocket the ignition key before you clean the grain tank, carry out any work associated with it, or when working behind, inside or underneath the combine;
- 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;
- 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

- 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.

Further information

HSE Agricultural Information Sheet No 3 Controlling grain dust on farms suggests practical ways of controlling grain dust.

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Legal

Manufacturers and suppliers have responsibilities under the Health and Safety at Work etc Act 1974 and the Supply of Machinery (Safety) Regulations 1992. They should have considered BS EN 292 and BS EN 632 which specifically addresses combine harvesters.

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.

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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