

Safe use of forage harvesters

HSE information sheet

Agriculture Information Sheet No 24 (Revision 1)

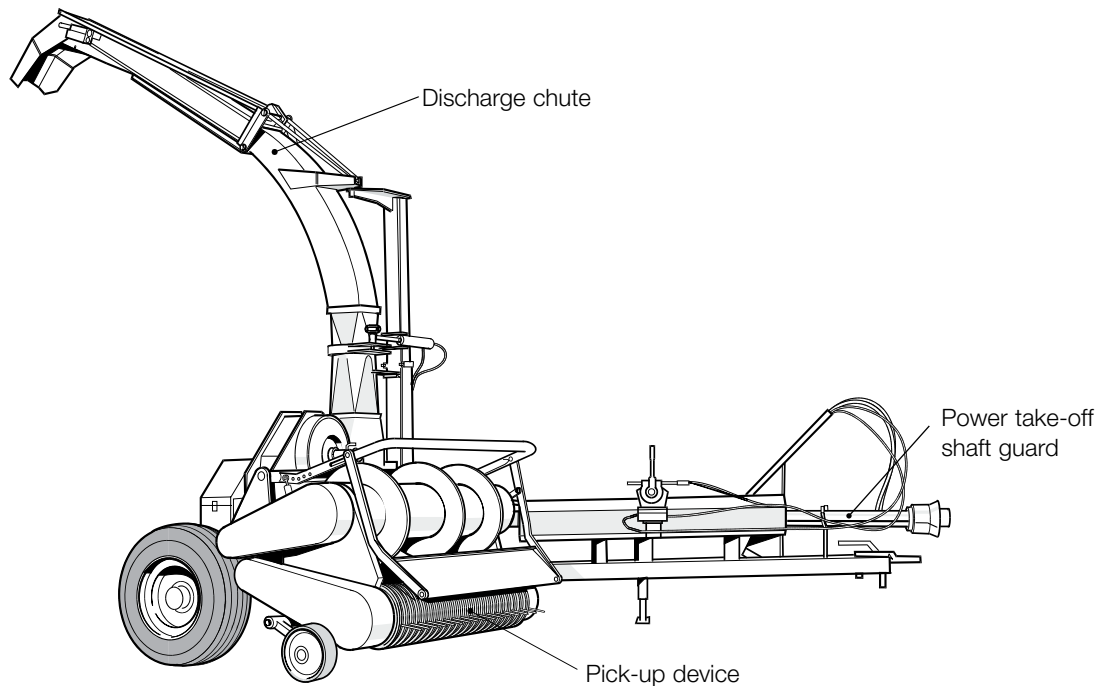


Figure 1 Typical trailed forage harvester

Introduction

This information sheet describes typical hazards associated with the use of forage harvesters (foragers). It provides guidance on minimising risks to the operator and others during work with both trailed and self-propelled machines and is intended to help employers, employees and the self-employed comply with their duties under health and safety legislation.

Different types of forager and their attachments (eg a rotary maize header) may 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 forager.

Hazards

Many serious injuries occur when operators are injured by the chopping mechanism. The greatest risk of

injury comes from contact with the machine's moving parts including:

- the exposed rotating cutter head, eg while sharpening;
- the moving drive mechanisms;
- being trapped or injured by the header/pick up;
- clearing blockages from the spout/header while the machine is in motion;
- contact with the power take-off shaft on trailed machines.

Other risks created by work with foragers include:

- falling from height while adjusting the chute or mounting/dismounting self-propelled machines;
- contacting overhead electricity power lines (OHPLs);
- contact with silage additives;

- the sharpening stone being ejected or breaking up during sharpening;
- guards fouling the rotating cutter head;
- noise and vibration.

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 machines 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 foragers should follow the general precautions set out below to ensure the safe operation of the machine:

- Provide operators with the instruction manual. Make sure they have read and understood it.
- Check operators are aware of the hazards, risks and the safe operating procedures
- Make sure operators are properly trained in how to use the machine safely. Make use of relevant training courses such as those provided by manufacturers/suppliers.
- Check that all guards are in position and correctly fitted before starting work, eg power take-off (PTO) shaft guard.
- Use your instruments. Listen and watch for potential blockages – avoiding blockages is easier than clearing them.
- If it is necessary to clear any blockage, follow the safe stop procedure.
- Use the reversing mechanism (if fitted) to wind out blockages from headers.
- Take extra care when working on steep ground. This is particularly important when using a trailed forager with a towed trailer.
- When blowing grass into a separately towed trailer, consider the other driver and avoid sudden manoeuvres.
- When dropping off loaded trailers from behind a forager on soft ground use a drawbar shoe or jack

that has a large ground surface contact area to prevent it sinking.

- Never carry passengers in the forager or tractor cab unless seated in a proprietary passenger seat.
- Do not allow people to jump on or off the tractor or self-propelled forager when it is moving.
- Take into account the run-down time for rotary maize headers before approaching them.

Precautions for work near overhead power lines (OHPLs)

Contact with power lines can be fatal. Assess the risks from OHPLs before starting work with a self-propelled forager as these machines can have a working height of 5.6 m or more. The minimum height above the ground is 5.2 m for power lines operating at 11/33 kV.

Factors to consider will include:

- the minimum height and location of OHPLs in the fields where work will take place;
- the height of the forager to be used measured from the ground to the highest point such as the top of the chute;
- remember: radio aerials or chute extensions will increase the overall height of the machine;
- safe travel routes between fields/work sites which take into account safe clearance distances;
- plan your work to avoid the spout being raised under OHPLs and use a safe system of work in fields where they are present.

To work safely near OHPLs:

- 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.
- Never park the forager or carry out maintenance, 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 in a prominent position within the cab.

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

Maintenance

A properly maintained machine will perform better and reduce the likelihood of breakdowns etc.

To reduce the risk of injury during maintenance, employers and operators should:

- Follow the manufacturer's recommendations and procedures for sharpening the knives.
- When sharpening the knives on trailed machines, stand in the position recommended by the manufacturer – do not lean over the sharpening mechanism.
- Wear appropriate personal protective equipment, eg safety goggles, when sharpening.
- Allow for the run-down time of the cutting mechanism before opening any guards.
- Take suitable precautions before carrying out work on a forager that has been applying additives, eg thoroughly wash it down with cold water first.
- Follow the manufacturer's procedures for removing headers and chopping mechanisms.
- Use mechanical handlers or handling aids when placing full additive containers onto the forager. It may be easier to top up the forager-mounted container from a bulk tank using a transfer pump to reduce the risk of sustaining a manual handling injury.

Further reading

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

Using tractors safely: A step-by-step guide Leaflet
INDG185(rev3) HSE Books 2012
www.hse.gov.uk/pubns/indg185.htm

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

Further information

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This guidance is issued by the Health and Safety Executive. Following the guidance is not compulsory, unless specifically stated, and you are free to take other action. But if you do follow the guidance you will normally be doing enough to comply with the law. Health and safety inspectors seek to secure compliance with the law and may refer to this guidance.

This leaflet is available at:
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