

# Extraction by Forwarder

Irish Forestry Safety Guide  
(IFSG)  
503



## Introduction

This leaflet covers the use of a tractor and trailer unit fitted with a grapple loader or a purpose-built forwarder for extraction of timber in forestry and other tree work.

You can use this leaflet, along with the manufacturer's handbook, as part of the risk assessment process to help identify the controls to put in place when extracting timber by forwarder.

It does not cover the safety requirements when working within the risk zone of a harvester or processor.

You must also assess the effect of the site and the weather as well as following this guidance.

All operators must have had appropriate training in how to operate the machine and how to carry out the tasks required.

Ensure appropriate PPE is worn when on site.

## The machine

- 1 Any risk zone specified by the manufacturer must be clearly and prominently marked on the machine.

- 2 Adequate field lighting must be fitted if working in poor light conditions.

## Driving

- 3 Do not drive if your vision is obscured.

- 4 Ensure the loader arm and head are parked correctly before driving off.

- 5 On and in the near vicinity of worksites, only cross under energised overhead electricity lines (OELs) at designated crossing points that are marked with goalposts (see IFSG leaflet 804 (IRL) *Electricity at Work: Forestry*).

**6** Safe driving distances from energised OELs should be clearly identified by barriers. In many cases marked trees will form a suitable barrier, as long as there is no opening which would allow vehicular access. The absolute minimum driving distance from the barriers to the overhead electric line is 6m. The Network Owner / Operator may advise distances greater than 6m depending on the voltage of the line.

**7** Avoid driving across felled trees or other timber.

**8** Where side slopes are unavoidable, extend the loader boom to the uphill side to maintain stability. Ensure the boom does not come into contact with any obstruction.

**9** Reduce the load when ground conditions are severe. Plan the work so the load can be 'topped up' after negotiating difficult stretches.

**10** Avoid turning uphill on side slopes.

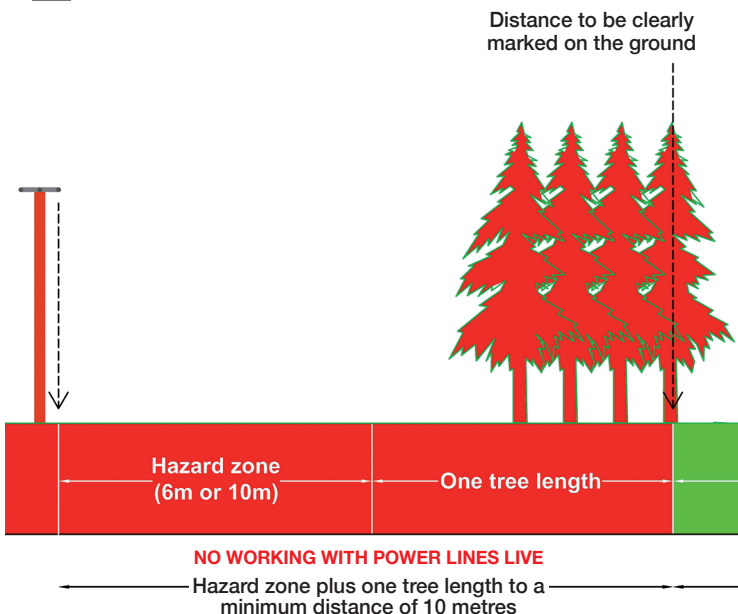


Figure 1:  
Operating a forwarder near overhead electricity lines

# The forwarder

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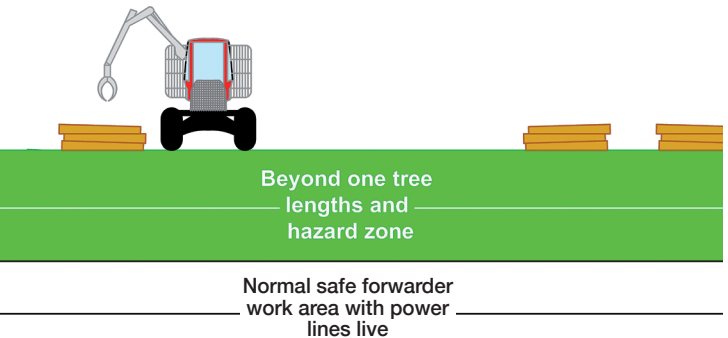
The forwarder must undergo periodic inspections to detect wear and tear that may make the equipment unsafe to use. These inspections can be carried out by a trained and competent operator. Additionally the loader must be thoroughly examined by a competent person at least every 12 months (see Guide to the Safety, Health and Welfare at Work (General Applications) Regulations 2007 and Regulation 52 of the General Application Regulations 2007).

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Maintenance must be carried out in accordance with the manufacturer's handbook which should be available.

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Keep maintenance and inspection record.



## Loading and unloading

- 14** Ensure the loading or parking brake is on while loading, and that it is released before moving.
- .....
- 15** Do not operate the forwarder if any part of the machine or its load can come within the hazard zone of energised OELs (see Figure 1). The hazard zone will vary between 6m and 10m depending on line voltages (see Leaflet IFSG 804 (IRL) Electricity at Work: Forestry).
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- 16** The safe working distances from energised OELs should be clearly identified. Marked trees, high-visibility tape or another suitable marking method should be used as well as organised felling and extraction routes.
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- 17** Under normal operating conditions stop work immediately if any person or machine enters the risk zone specified for your machine.
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- 18** When loading/unloading on sloping ground, park straight up and down the slope.
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- 19** Use convenient stumps or ground obstructions to chock the wheels when loading on slopes.
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- 20** Use more than one control at a time to give smooth movement.
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- 21** When loading, ensure the grapple jaws fully encircle the load (unless this is a single billet).
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- 22** Load the bunk evenly to maximize stability and do not overload it.
- .....
- 23** Do not load above the level of the headboard and stanchions/pins.

## Stacking

**24** Stacks of timber should always be made and maintained in a safe and stable condition. They should be sited on firm level ground or on bearers.

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**25** Generally stack heights should not exceed product length and should not exceed the height for a haulier to be able to see across the top of the stack. Where site specific conditions dictate that stack heights need to be more than product length then extra precautions must be put in place around the stack. The agreed stack height should be included in the site risk assessment. If circumstances change the risks must be reassessed.

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**26** Hauliers must leave stacks in a safe and stable condition after loading.

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**27** Do not climb on timber stack' signs should be erected near stacks. Take special care in areas with high public access. Additional signs may be required or the stacking site enclosed with barriers or hazard warning tape.

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### Further Information and Guidance:

Visit our website at **[www.hsa.ie](http://www.hsa.ie)**, telephone our contact centre on **1890 289 389** or email **[wcu@hsa.ie](mailto:wcu@hsa.ie)**



Use BeSMART, our free online risk assessment tool at **[www.besmart.ie](http://www.besmart.ie)**  
Check out our range of free online courses at **[www.hsalearning.ie](http://www.hsalearning.ie)**



## Further reading

Available at [www.hsa.ie/eng/Publications\\_and\\_Forms/Publications/Agriculture\\_and\\_Forestry/](http://www.hsa.ie/eng/Publications_and_Forms/Publications/Agriculture_and_Forestry/)

- Code of Practice for Managing Safety and Health in Forestry Operations
- Information on Health and Safety Responsibilities of Forest Landowners who intend to fell their trees
- Guide to Safe Working with Timber and Chainsaws
- Chainsaw Safety Training Advice Information Sheet

IFSG Leaflets:

- 301 - Using Petrol Driven Chainsaws
- 302 - Basic Chainsaw Felling and Manual Takedown
- 303 - Chainsaw Snedding
- 304 - Chainsaw Cross Cutting and Manual Stacking
- 306 - Chainsaw Clearance of Windblow
- 307 - Chainsaw Felling of Large Trees
- 503 - Extraction by Forwarder
- 603 - Mechanical Harvesting
- 804 - Electricity at Work: Forestry

*In association with*



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This guide sets out evidence of good practice for a specific forestry task. Deviation from the guide should only be considered after a full risk assessment has been undertaken by competent persons. Health and safety obligations MUST be met at all times.

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