

## Overview

This standard covers all the activities that may be required to extract timber, together with the core requirements and responsibilities.

Extraction is the process of moving cut timber from the place where it was felled to an area where it can be removed from the site.

Activities could include some or all of the following:

- Chokering timber for extraction
- Extracting timber by winching
- Extracting timber using extraction vehicles
- Sorting and stacking timber

You could be working to a given specification that defines the methods to be used but you will be expected to determine how to carry out these methods on site.

You will need to take account of any restrictions affecting the work e.g. designated sites, presence of listed structures, wildlife, non-native invasive or protected species etc.

You are required to avoid or minimise damage or disturbance to the surrounding area including trees, other vegetation, wildlife and habitats, or to any structures, fences, paths, signs, ditches/waterways or drains, and to ensure that other site users are not put at risk by your work.

When working with equipment and machinery you must be appropriately trained, competent to carry out the activity being undertaken, and hold current certification where required, in line with the relevant legislation.

Your work must conform to all relevant legislation and codes of practice, industry standards and guidance.

This standard is for harvesting operators.

## Performance criteria

*You must be able to:*

### **Core requirements and responsibilities**

1. obtain the relevant information to carry out the work activities in accordance with organisational procedures
2. check any statutory requirements that might be in place that may prohibit or place conditions on the work to be carried out and confirm that all required permissions and licences have been obtained
3. maintain the health and safety of yourself and others at all times, in accordance with the relevant legislation and codes of practice
4. assess the risks associated with the site and the work to be carried out, before starting work and throughout the activity, checking and confirming the findings of any existing risk assessments
5. confirm that sufficient control measures are implemented, risk zones and escape routes have been set up and marked, and emergency planning and procedures relevant to the site have been established and recorded
6. select the safest working methods in accordance with the assessed risks and organisational procedures, and plan work accordingly
7. plan work to minimise adverse damage and diffuse pollution
8. confirm that relevant training, experience and certification is in place to undertake the work to be carried out and recognise your own competence limitations
9. use appropriate methods to maintain effective communication with other workers and anyone else involved in, or affected by, the work, in accordance with industry guidance and organisational procedures
10. confirm that appropriate personal protective equipment (PPE) for the work to be carried out is worn at all times
11. select, prepare, use, maintain and store the equipment and machinery required for extraction safely, in accordance with the relevant legal requirements and manufacturer's instructions
12. confirm that all equipment has been checked, tested where required, and is fit for purpose, in accordance with the relevant legal requirements and manufacturer's instructions
13. maintain the safety and security of tools, equipment and fuel on site
14. maintain biosecurity in accordance with the relevant legal requirements, industry guidance and organisational procedures

15. carry out the required work in accordance with the information provided and organisational procedures
16. identify and select the timber for extraction in accordance with the product specification
17. minimise damage or disturbance to the site, including any remaining standing trees, tracks, roads, drains or watercourses, avoid pollution while carrying out the work and confirm that the site is left in a safe and tidy condition
18. implement best practice approaches to sustainability that are appropriate for the work being carried out
19. deal effectively with issues that arise within the scope and limitations of your responsibilities and report issues that cannot be resolved, in accordance with organisational procedures
20. complete and store all the relevant documentation in accordance with legal and organisational requirements

### **Choker timber for extraction**

1. select suitable choker cable/rope or chain of adequate diameter and strength for the load to be applied
2. carry out visual checks on the cable/rope or chain and fittings before use in accordance with legal requirements and industry guidance
3. choker timber for extraction safely in accordance with the type of equipment being used and the timber to be extracted
4. move away from the risk zone before signalling to winch operator or operating the winch

### **Extract timber by winching**

1. set up and prepare the winching equipment for extraction
2. confirm the winch cable/rope and other system components are of adequate capacity and length for the load to be applied and the distance to be pulled
3. lay out the cable/rope, avoiding obstacles to the winching process
4. carry out visual checks on the winch cable/rope and other equipment before use and throughout the winching operation in accordance with legal requirements and industry guidance
5. confirm that the timber is choked appropriately for safe and effective winching and attach it to the winch cable/rope
6. operate the winch to extract timber safely, in accordance with legal requirements

and industry guidance and stop winching when signalled to do so

7. confirm that the timber is in a safe position before releasing it from the winch

### **Extract timber using extraction vehicles**

1. prepare the machine and equipment by carrying out pre-use checks and adjustments, in accordance with the relevant legal requirements and manufacturer's instructions, including all safety features
2. check the immediate work area for hazards and obstacles, including height restrictions when using grapple loaders, before operating the machine, and use the correct warning signals at all times
3. position the machine and attach/load timber safely and to a capacity that ensures safe and effective extraction as appropriate for the type of machine and equipment
4. when using a grapple loader, ensure the timber being loaded is of a size and weight compatible with the boom and grapple
5. limit the size of load on the machine to avoid damage to the product, instability of the machine, loss of load, or damage to standing trees, tracks, roads, drains and the wider environment
6. operate and manoeuvre the machine safely, and in a way that is consistent with the type of machine, weather, ground conditions, types of terrain and site restraints
7. detach/unload the timber from the machine safely at the designated accumulation area
8. stop and isolate the machine on completion of the activity, carry out any required maintenance in accordance with the manufacturer's instructions, and leave in a secure position

### **Sort and stack timber**

1. sort and stack timber in the designated area safely, in accordance with the product specification and industry guidance

## Knowledge and understanding

*You need to know and understand:*

### **Core requirements and responsibilities**

1. how to identify and access information relevant to the required work
2. how to identify hazards and assess the risks associated with the site and the work to be carried out and the importance of site-specific risk assessment and control measures that are appropriate to your area of work
3. the relevant health and safety procedures and Safe Systems of Work (SSoW)
4. the emergency planning and procedures relevant to the site, industry guidance on risk zones and safety clearances from overhead electricity conductors, and what to do in the event of contact with power lines
5. the importance of risk zone management and the correct use of warning signs and barriers to inform and protect others while the work is carried
6. current legislation and codes of practice, industry standards and guidance, organisational policies, procedures and protocols, business and professional ethics that are relevant to your area of work, and to which you must adhere
7. the legal, industry and organisational requirements for training, experience and certification to undertake the work activities required and the importance of acknowledging your limitations and not undertaking work that is beyond your level of competence
8. why it is important to maintain effective communication with other workers and anyone else involved in, or affected by, the work and the methods of communication that should be used
9. the tools, equipment and personal protective equipment (PPE) required for the work and how to safely prepare, use, carry out operator maintenance and store these, in accordance with the relevant legal requirements, manufacturer's instructions, and organisational procedures
10. the legal requirements for checking and testing equipment and why it is important to maintain all equipment to a high standard
11. technology used in your area of work and how to use it
12. the importance of hygiene and biosecurity measures and how to apply these
13. how to interpret product specifications, recognise the type and species of timber and select the product categories to meet the required specification when extracting timber
14. the different methods of timber extraction and how to select the most appropriate

methods

15. the implications of terrain, ground conditions, obstacles, season, weather, load, type and condition of timber on the extraction methods used

16. the issues, hazards and risks posed by working on steep slopes

17. the potential impact of your work on the site and surrounding area and how this can be minimised

18. your and the organisation's responsibility for protecting the environment and working sustainably

19. the importance of checking that completed work meets requirements in accordance with the information provided

20. the issues that can occur when extracting timber, the actions to take and the organisational procedures for reporting issues that cannot be resolved

21. the scope and limitations of your competence, responsibilities and accountability

22. the legal and organisational requirements for the completion and storage of documentation

### **Choker timber for extraction**

1. the types of chokers and fittings for timber extraction and how to select suitable equipment and methods for the type of timber being moved

2. the operator checks and maintenance necessary on the cable/rope or chain and fittings before and during use, including identification of the load-bearing capacity of the equipment

3. the information from the Certificate of Conformity required to ensure that the cable, rope or chain is of a stated breaking strain

4. how to establish the risk zones around moving cable/chain/rope and timber, according to the extraction method

### **Extract timber by winching**

1. how to safely set up and prepare winching equipment for extraction

2. the principles of winch operation and the loads to be applied

3. what to look out for when routing the cable/rope, with regard to the type of timber being extracted and the obstacles that may be encountered when the winch is operated

4. the effect of poorly choked or awkwardly shaped loads on extraction by winching and how to deal with timber that encounters an obstacle while it is being winched

5. the capabilities and limitations of cable crane systems, including slope limitations,

the length of timber loaded and the maximum safe working load

### **Extract timber using extraction vehicles**

1. how to prepare the machine and equipment
2. the capabilities and capacity limitations of the machine being used, including slope limitations, height clearance requirements and the maximum safe working load
3. how to maintain the stability of the timber and the machine during attaching/loading and the importance of balanced loads
4. how to operate a grapple loader, where fitted, to safely lift, manoeuvre and load timber, and the lifting and reach capabilities of the grapple loader
5. how to operate and manoeuvre the machine safely and efficiently
6. how to detach/unload the timber from the machine safely at the agreed accumulation area and the implications of loads moving or falling when detaching/unloading
7. how and when to use bearers, a logging blade or butt plate to accumulate extracted timber

### **Sort and stack timber**

1. the requirements for sorting and stacking to meet production specification, safe methods of handling, safe stacking heights, stability of stacks and signing requirements
2. the safeguards required when timber is accumulated adjacent to roads and tracks in regard to stability and warning sign requirements

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## Scope/range

**Activities could include some or all of the following:**

- chokering timber for extraction
- extracting timber by winching
- extracting timber using extraction vehicles
- sorting and stacking timber

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## Scope/range related to knowledge and understanding

### **Cable crane preparation:**

- positioning the machine safely
- setting up and rigging the cable crane
- erecting and anchoring the tower
- rigging and anchoring the tail spar
- installing the skyline carriage
- replacing or repairing damaged cables/ropes

### **Skidder and forwarder preparation:**

- routine operator checks
- basic maintenance
- operator environment adjustment
- operator protection structure checks
- familiarisation with all controls and instruments, including on board computer systems where fitted
- start and stop procedures

### **Winching:**

- the bearing capacity of pulley anchor strops in various configurations
- the multiplication of forces when pulley (snatch) blocks are used
- selecting strops and anchor points when setting pulleys used in offset pulling or hi-leading, with regard to the multiplication of forces applied
- the additional hazards and risks involved when using vehicle-mounted winches with no ground anchors, such as on forestry tractors or skidders
- how offset pulleys should be set if winching down a steep slope, to avoid damage to winching equipment or injury to the operator

## Glossary

**Banksman/signaller** – a trained and competent person who controls the movements of machinery, procedures and people on a site to ensure work activities are carried out safely.

A hierarchy of controls must be established between the banksman/signaller and other operators to ensure that pre-agreed signals are clearly transmitted and understood.

**Choker timber** – the use of a cable, rope or chain that tightens automatically and will not undo

### **Communication with other team members:**

- hand signals
- two-way radio sets
- mobile phones
- headsets

**Configurations of pulley anchor strops** – “basket” versus “chokered”

### **Extraction equipment could include:**

- winches
- cable cranes
- extraction vehicles:
- tractors
- ATV adaptations
- skidders
- "iron horse"
- grapple loaders
- forwarders
- other tracked machines
- trailers

**Forwarder** - a tractor and trailer unit fitted with a grapple loader or a purpose-built forwarder

**Ground conditions:**

- wet
- dry
- frost
- ice
- mud
- loose ground

**Information required to carry out work activities could include:**

- drawings
- plans
- schedules
- specifications
- method statements
- Standard Operating Procedures (SOPs)
- manufacturer's instructions
- customer requirements
- quality assurance requirements
- industry standards (e.g. British Standards)
- verbal or written instructions
- industry guidance (e.g. FISA)

**Operator checks for winching include:**

- cable/rope and its terminal
- strops
- pulleys

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- shackles
- hooks
- chokers
- use of manufacturer's guidelines
- use of wire cable or textile/rope

**Operator environment pre-use checks and adjustments:**

- seat
- steering and movement controls
- braking system
- mirrors and/or cameras
- seat belt
- monitoring gauges
- information panels
- IT screens
- visual and audible warnings
- communication system

**Organisational procedures** refer to procedures set by the organisation you are employed by or the organisation that you are doing the work on behalf of (the client or customer)

**Protection structures:**

- Operator Protective Structures (OPS)
- Roll Over Protective Structures (ROPS)
- Falling Object Protective Structures (FOPS)

**Risk zone** – also referred to as Danger zone and Exclusion zone. The Risk zone should be established before the commencement of any tree work.

**Safe System of Work (SSoW)** – is a method of work that puts in place control

measures arising from a risk assessment, in order to manage identified hazards, which are broken down into four elements: safe person; safe equipment; safe place; and safe practice.

**Skidder** – any type of heavy vehicle used for extracting timber by pulling felled trees out in a process known as "skidding". These are often tractors or ATVs but can be purpose built.

**Terrain:**

- hard surfaces
- soft surfaces
- uneven surfaces
- slopes

**Types of timber products include:**

- whole trees
- pole lengths
- logs and other shortwood

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