

## Extract timber using mechanically powered winches

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### Overview

This standard is about extracting timber using mechanically powered winches. It includes operating mechanically powered winches to pull felled trees or timber into a position for further processing or extraction. An important aspect of this work is the communication between the choker man and the winch operator.

This standard also covers the use of winches for single line pull in timber extraction, restraint or rolling of trees (e.g. when working on windblown, timber on slopes or unstable felled trees).

When working with machinery you need to be appropriately trained, and hold current certification where required, in line with relevant legislation.

Your work must conform to all relevant legislation and codes of practice when carrying out this work.

This standard is only suitable for those who are already competent to operate a base machine with attachments.

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### Performance criteria

You must be able to:

1. assess the risks associated with the site and the proposed work
2. select and implement appropriate working methods, in accordance with the assessed risks
3. select and use the appropriate personal protective equipment (PPE) for the work
4. select, prepare and use the appropriate tools and equipment, safely and effectively
5. maintain the security of the machinery and equipment on site
6. select, prepare and maintain access and egress routes in a serviceable condition
7. ensure that damage to the work site, any remaining standing trees, tracks, roads, drains and the wider environment is kept within specified limits
8. ensure the cable and other system components are of adequate capacity and length for the load to be applied and the distance to be pulled
9. maintain effective teamwork and communication with other team members when winching, using an appropriate method
10. pull out the cable, avoiding obstacles to the winching process
11. identify and select the timber for extraction, according to specification
12. ensure timber is choked appropriately for safe and effective winching
13. operate mechanically powered winch to extract timber in keeping with site constraints, in a safe and effective way
14. stop winching when signalled to do so
15. utilise additional safeguards and comply with safety distances when winching near roads and tracks or where others are working
16. ensure that the timber is in a safe position before releasing chokers, or attaching the load to the winch, if skidding
17. ensure the site is left in a condition which meets environmental requirements, in accordance with the specification
18. maintain the health and safety of yourself and others at all times, in accordance with relevant legislation

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### Knowledge and understanding

You need to know and understand:

1. how to identify hazards and assess risks
2. how to interpret risk assessments
3. the selection, use and care of personal protective equipment (PPE)
4. site procedures including communication systems and emergency planning
5. the types of tools and equipment required and how to maintain and use these safely and effectively
6. why it is important to maintain the safety and security of equipment and vehicles on site
7. the current guidelines on machinery operation, risk zones and safety clearances from overhead electricity conductors and what to do in the event of contact with power lines
8. the principles of mechanically powered winch operation and the loads to be applied, including the multiplication of forces when pulley (snatch) blocks are used
9. the acceptable limitations to cable wear when using the winch for assisted directional felling or the restraint of windblown trees
10. the information from the Certificate of Conformity required to ensure that the cable is of a stated breaking strain
11. the operator checks and maintenance necessary on the cable and its terminal, strops, pulleys, shackles, hooks, chokers etc. before and during use, including identification of the load bearing capacity of the equipment
12. the implications of terrain, ground conditions, season, weather, type of timber and species to laying out cable for winching timber
13. the additional problems, hazards and risks posed by working on steep slopes when winching timber
14. how to recognise the type of timber and the species and select the product categories in order to meet the required specification
15. what to look out for when routing the cable, with regard to obstacles that may be encountered when the winch is operated
16. the additional points to consider when laying out the cable and chokering multiple stems

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17. what to consider when selecting stops and anchor points when setting pulleys used in offset pulling, double rigging or hi-leading, with regard to the multiplication of forces applied
18. the bearing capacity of pulley anchor stops in various configurations
19. the signals and methods of signalling between the winch operator or intermediate banksman and the chokerman
20. how to deal with timber that encounters an obstacle while it is being winched in
21. the effect of poorly choked or awkwardly shaped loads on line wire extraction
22. the additional hazards and risks involved when using vehicle-mounted winches with no ground anchors, such as on forestry tractors or skidders, and their unsuitability for restraint of windblown stems and root-plates or in assisted directional felling
23. how offset pulleys should be set if winching down a steep slope, to avoid damage to winching equipment or injury to the operator
24. the potential impact of your work on the environment and how this can be minimised
25. your responsibilities under relevant environmental, health and safety legislation and codes of practice

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**Scope/range**

Timber, either as single or multiple stems, both tip first and butt first

Communicate with other team members using one or more of the following:

- hand signals
- two-way radio
- headsets

## Glossary

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

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

Links to other NOS

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