

Carry out the aerial cutting of trees using a crane

Overview

This standard covers the aerial cutting of trees using a crane for the removal of tree sections. The work will be carried out by operators with extensive experience of climbing and accessing trees.

This standard covers the removal of single limb or parts of the tree canopy, up to the complete removal of trees using a crane.

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, the 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 only suitable for those who are already competent in accessing trees by climbing.

Falls from trees or being hit by falling trees, sections of trees or branches can kill or seriously injure workers on site or those passing by.

Confirm that:

- safe practices are adopted for accessing and working in trees
- the layout and organisation of the work area protects all parties from the risk of falling objects

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- risk zones are established and people are prohibited from entering the zone
- risk zones are, where reasonably practicable, clearly marked, signed and guarded
- communication methods between all workers on site are robust and effective

Additional resources may be required on site, such as banksmen, to help manage any risk associated with anyone possibly entering the work site.

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Performance criteria

You must be able to:

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, the tree, working at heights 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. consider the effect of disease, defects and decay on the treework operation and obtain professional advice where you are unsure
6. confirm that sufficient control measures are implemented, risk zones and drop zones have been set up and marked, and emergency planning and procedures relevant to the site have been established and recorded
7. select an appropriate access method and rescue plan for safe working at heights
8. select the safest working methods, making use of mechanical methods where this is safer, in accordance with the assessed risks and organisational procedures, and plan work accordingly
9. confirm that relevant training, experience and certification is in place to undertake the work to be carried out, and recognise your own competence limitations
10. use appropriate methods to maintain effective communication with the crane operator, other workers and anyone else involved in, or affected by the work, in accordance with industry guidance and organisational procedures
11. confirm that appropriate personal protective equipment (PPE) for the work to be carried out is worn at all times
12. select, prepare, use, maintain and store the tools and equipment required safely, in accordance with the relevant legal requirements and manufacturer's instructions
13. 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

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14. maintain the safety and security of tools and equipment on site
15. carry out the required work in accordance with the information provided and organisational procedures
16. select and use access and positioning methods appropriate to the assessed risks and the information provided
17. select an appropriate anchor point to position the access equipment so that the anchor point will not be compromised by the tree or any part of the work being carried out
18. calculate the expected loads the rigging needs to take, within its design/safety factors, and select compatible components to make up the rigging system
19. assess the position of the crane to facilitate the removal of the tree sections
20. agree with the crane operator the position of the crane for the work to be carried out
21. assess the likely directions of the pivot and attach slings accordingly
22. assess the weight of the pieces to be removed
23. select an appropriate work position and carry out aerial tree cutting by executing the appropriate cut
24. use a pull/tag line to aid the removal of sections in order to protect yourself, the infrastructure and other targets
25. confirm arisings are removed and dealt with in accordance with the legal and organisational requirements
26. minimise damage or disturbance to the site and surrounding area while carrying out the work and confirm that the site is left in a safe and tidy condition
27. implement best practice approaches to sustainability that are appropriate for the work being carried out
28. deal effectively with issues that arise, within the scope and limitations of your responsibility, and report issues which cannot be resolved, in accordance with organisational procedures
29. complete and store all relevant documentation in accordance with legal and organisational requirements

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Knowledge and understanding

You need to know and understand:

1. how to identify and access information relevant to the required work
2. how to identify tree species and families and how the species, condition and the time of year will affect treework
3. how to identify hazards and assess 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
4. the importance of checking for signs of disease, defects and decay in the tree being worked on and where to obtain professional advice when required
5. the relevant health and safety procedures and Safe Systems of Work (SSoW)
6. the emergency planning and procedures relevant to the site, risk zone distances and the management of risk zones
7. the importance of risk zone management the correct use of warning signs and barriers to inform and protect others while the work is carried out, and the procedures for temporary traffic management where required
8. the 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
9. 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
10. 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
11. 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
12. the legal requirements for checking and testing equipment and the evidence required to show that this has been done
13. technology used in your area of work and how to use it
14. the importance of using a personal fall protection system when climbing and working in trees

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15. how to select appropriate anchor points and the position of access equipment so that the anchor point will not be compromised by the aerial tree-cutting work being carried out
16. the importance of accurate and appropriate cuts when removing tree sections and the effect of the cuts on the section being removed
17. the advantages and disadvantages of the available tools and equipment to perform the aerial tree-cutting operations
18. how to install and use pull/tag line to aid the removal of sections
19. the advantages and disadvantages of removing the tree sections using a crane
20. how to calculate the expected loads when removing tree sections using a crane
21. how to assess the likely direction of the pivot
22. the correct methods of dealing with arisings in accordance with legal and organisational requirements
23. the potential impact of the work on the site and surrounding area and how this can be minimised
24. your and the organisation's responsibility for protecting the environment and working sustainably
25. the importance of checking that completed work meets requirements, in accordance with the information provided
26. the issues that can occur when carrying out the aerial cutting of trees using a crane, the actions to take and organisational procedures for reporting issues which cannot be resolved
27. the scope and limitations of your competence, responsibilities and accountability
28. the legal and organisational requirements for the completion and storage of documentation

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Scope/range related to knowledge and understanding

Different methods of dealing with arisings include: burning, stacking, burying, spreading, further processing, re-using as other products

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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.

Drop zone – the designated area into which objects such as tree branches or trunk sections are to be dropped when carrying out aerial tree pruning.

Health and safety risks from chainsaw use:

- being cut by the saw
- hit or crushed by moving timber
- noise-induced hearing loss
- hand-arm vibration (HAV)
- exhaust fumes from petrol-driven chainsaws
- exposure to oils
- exposure to dust
- effects of fatigue/dehydration on the ability to work safely
- other work equipment or activities on site

Information required to carry out work activities could include:

- drawings
- plans
- schedules
- specifications
- method statements
- Standard Operating Procedures (SOPs)
- manufacturer's instructions

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- customer requirements
- quality assurance requirements
- industry standards (e.g. British Standards)
- verbal or written instructions
- industry guidance (e.g. FISA)

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)

Personal Fall Protection System – a collection of components which, when used correctly, combine to prevent a fall. Personal fall protection systems comprise a primary system and a back-up that is attached to an independent anchor wherever possible. The back-up can only be omitted when:

- It is not practical to maintain it for the specific, “stationary” and short-duration task of rope advance/changeover, reinstating the backup as soon as possible
- Carrying out the rescue of a casualty where speed is crucial

Risk zone – also referred to as Danger zone and Exclusion zone. The Risk zone should be established before 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.

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