

LEVEL 2

**CERTIFICATE OF COMPETENCE
IN
CHAIN SAW AND RELATED OPERATIONS**

ASSESSMENT SCHEDULE

CS33

FELL LARGE TREES
(pre-requisite CS30 , CS31 and CS32)

Minimum recommended guide bar length:380mm (15")

This unit covers trees whose effective diameter at felling height is over 760mm (30").

The felling technique may include boring through the centre of the sink
Candidates may be assessed in Part 2a – Remove branches by snedding
or Part 2b – Remove branches by De-limbing or both

NPTC LEVEL 2 CERTIFICATE OF COMPETENCE IN CHAIN SAW AND RELATED OPERATIONS

Introduction

The scheme is administered by NPTC.

NPTC will:

- Publish
 - scheme regulations
 - assessment schedule
 - assessment material
- Approve centres to co-ordinate and administer the scheme
- Set standards for the training of Verifiers and Assessors
- Recruit, train and deploy Verifiers
- Manage verification
- Issue certificates to successful Candidates

The Certificate of Competence/ID Card

Certificates of Competence/ID Cards will be awarded to Candidates who achieve the required level of competence in the Units to which their Certificate relates.

Instruction

Attendance at a course of instruction is not a pre-requisite to an application for an assessment but potential Candidates are strongly advised to ensure that they are up to the standard that will be expected of them when they are assessed.

NPTC does **not** hold a register of instructors; however instruction will normally be available from recognised training providers and/or centres of further or higher education active in the areas covered by this certificate. Further information on training may be obtained from the local Assessment Centre.

Access to Assessment

Assessment Centres will be responsible for arranging assessment on behalf of a Candidate. Assessment may only be carried out by an Assessor approved by NPTC for that scheme. Under no circumstances can either instructors involved in the preparation of candidates, or the candidates work place supervisors, or anyone else who might have a vested interest in the outcome, carry out the assessment.

The minimum age limit for Candidates taking certificates of competence is 16 years. There is no upper age limit.

Assessment

Assessment is a process by which it is confirmed that the Candidate is competent in the Units within the award to which the assessment relates. It is a process of collecting evidence about his/her capabilities and judging whether that evidence is sufficient to attribute competence.

The candidate must be registered through an NPTC approved Assessment Centre for this qualification prior to assessment.

The schedule of assessment contains the criteria relating to:

- Observation of practical performance
- Assessment of knowledge and understanding

When all the criteria within the Units for which assessment has been sought have been completed the result(s) will be recorded on the Candidate Assessment Report Form(s).

Performance Evaluation

The result of each assessment activity is evaluated against the following criteria:

- 4 = Meets or exceeds the assessment criteria by displaying a level of practical performance and/or underpinning knowledge, with no 'minor' or 'critical' faults. (Competent).
- 3 = Meets the requirements of the assessment criteria for both the practical performance and the underpinning knowledge, with some 'minor' faults but no 'critical' faults. (Competent).
- 2 = Does not fully satisfy the requirements of the assessment criteria, being unable to perform the practical task satisfactorily or being deficient in underpinning knowledge leading to the recording of minor faults. (Not yet competent).
- 1 = Does not satisfy the requirements of the assessment criteria, being unable to perform the practical task satisfactorily or safely or being deficient in underpinning knowledge leading to the recording of a critical fault. (Not yet competent).

A list of registered Assessment Centres is available from NPTC. (www.nptc.org.uk)

Verification

Verification is a process of monitoring assessment; it is an essential check to confirm that the assessment procedures are being carried out in the way that NPTC has laid down. The overall aim of verification is to establish a system of quality assurance that is acceptable in terms of both credibility and cost effectiveness.

Approved Assessors will be subject to a visit by the Verifier at a time when assessments are being undertaken.

A selection of assessment reports completed by the assessor will be evaluated by NPTC.

Compliance with the verification requirements is a pre-requisite for Assessors remaining on NPTC's list of approved assessors.

Safe Practice

At all times during the assessment, the chainsaw and other equipment must be operated in a safe manner in accordance with industry best practice, whatever the task being carried out.

1. Assessors must hold a current 'First Aid at Work' Certificate.
2. It is strongly recommended that Candidates hold at least a recent, recognised 'Emergency First Aid' Training Certificate.
3. All chain saws used in the assessments must comply with Arboriculture and Forestry Advisory Group (AFAG) Safety Guide 301 in terms of safety features, and be a model and size suited to the task(s) required.
4. Recommended guide bar lengths should be observed, although variations may be accepted at the discretion of the Assessor where this is appropriate to the task.
5. Candidates should be familiar with the saw that they are going to use.
6. A spare working chainsaw must be available.
7. Appropriate Personal Protective Equipment (PPE) must be worn at all times. All PPE used must comply with AFAG Safety Guides 301, 401, 801, Health and Safety Executive publications and current legal requirements in terms of specification and use.
8. A First Aid kit meeting current regulations, of the appropriate size for the number of persons on site, must be available.
9. The candidate must be equipped with a personal first aid kit.
10. The Assessor must ensure a Risk Assessment has been carried out, and sufficient control measures implemented. In particular, the location of the site and weather conditions should be assessed, details of access, etc, which may be required by emergency services must be noted, as well as the nearest Accident and Emergency Hospital Unit. The means of contacting the emergency services must be established. Manual handling techniques must comply with current legislation.
11. Any necessary permissions must have been granted, and notifications made as appropriate: (e.g. Local Planning Authority, Forestry Commission, Forest Enterprise, Highways Authority, Private owners, Statutory undertakers, Police, etc).
12. All equipment being used for this assessment must comply with relevant requirements of the Provision and Use of Work Equipment Regulations (PUWER) 1998.
13. Information may be sought from the relevant operator manuals or any other appropriate training or safety publication.
14. The current Regulations for transport, handling and storage of fuel and oils must be complied with.
15. Provision must be made to avoid the risk of environmental pollution.
16. It is the responsibility of the Assessor and the Candidate to ensure that any additional requirements and provisions are met as relevant to this qualification.

Complaints and Appeals

NPTC and its Assessment Centres have a formal Complaints and Appeals procedure. In the event of any dissatisfaction with the arrangements and conditions of assessment, the candidate should first contact the Assessment Centre through whom the assessment was arranged and submit the complaint in writing.

For further information on NPTC's Equal Opportunities Policy and Complaints and Appeals Procedures, please refer to www.nptc.org.uk

CS 33 – Fell Large Trees

Learning Outcomes

The candidate will be able to:

1. Identify the Risk Assessment and Emergency procedures on a work site
2. Select equipment required for safe and effective felling
3. Fell large sized trees
4. Dismantle large felled trees

Prior to assessment in this qualification, candidates must successfully achieve **CS Units 30, 31 and 32**

The assessment comprises a minimum of three parts, one compulsory part 1, and two optional parts, either 2a **and/or** 2b. The unit will be endorsed according to the method of removing branches (either CS33a -Sned or CS33b - Delimb).

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|---------|-------------------------------|
| Part 1. | Fell Large Tree(s) |
| Part 2a | Remove branches by Snedding |
| Part 2b | Remove branches by De-limbing |

Candidates must successfully achieve all Assessment Activities unless otherwise specified.

Recommended minimum guide bar length of candidate's saw 15", compatible with using a boring technique for felling.

A minimum of one tree must be felled to the required standard, either conifer or broadleaf species.

NOTE:

Candidates assessed in CS33 – Snedding, are not required to be re-assessed in Part 2a if they hold CS32a - Sned
Candidates assessed in CS33 – Delimiting, are not required to be re-assessed in Part 2b if they hold CS32b – Delimb

Candidates previously assessed in 32a (Sned) and then progress to 33b (Delimb) will be deemed to have met the assessment requirements of 33a (Sned)

Candidates previously assessed in 32a (Delimb) and then progress to 33a (Sned) will be deemed to have met the assessment requirements of 33b (Delimb)

Assessment and site requirements:

- Tree(s) with an effective diameter at felling height over 760mm (30"), either conifer or broad-leaved
- A winch and pulling equipment appropriate to the tree size
- Stump treatment if applicable
- Rear handled chain saw in good condition [minimum recommended guide bar length: 380mm (15")] appropriate to size of tree
- Sufficient fuel and oil for the assessment, appropriate to saw model
- Appropriate felling aids (e.g. felling lever, wedges, sledge hammer etc.)
- An adequate tool kit for field maintenance
- In addition to the relevant requirements of the Provision and Use of Work Equipment Regulations (PUWER) 1998, any ancillary equipment used for this assessment must also comply with relevant requirements of the Lifting Operations and Lifting Equipment Regulations (LOLER) 1998 where applicable.

If a mechanical (tractor mounted) winch is used the operator must show evidence of Competency to operate the winch.

Part1: Fell Large Trees

ASSESSMENT ACTIVITIES	ASSESSMENT CRITERIA
1. Demonstrate knowledge of what is involved in a Risk Assessment	Risk Assessment must be specific to: <ul style="list-style-type: none"> - Site - Task - Machine Risk Assessment must contain: <ul style="list-style-type: none"> - Identified hazards - Evaluated risk - Control measures to be implemented - Emergency procedures - Risk Assessment must be communicated to operator
2. Select and wear Personal Protective Equipment (PPE, Safety clothing)	<ul style="list-style-type: none"> - Chainsaw safety trousers - Chainsaw safety boots - Safety helmet - Eye & ear protection - Chainsaw gloves - Non-snag outer clothing - Personal First Aid Kit - Whistle
3. Demonstrate knowledge of the legal constraints in relation to proposed tree felling.	<ul style="list-style-type: none"> - A Felling Licence will be required if more than five cubic metres of timber are felled per quarter, of which only two cubic metres can be sold. - Dead, dangerous or windblown trees may be exempt from Felling Licence - If a T.P.O (Tree Preservation Order) is present the Local Authority must be consulted and give authority the work to proceed
4. Demonstrate knowledge of the safety considerations to be observed in planning the felling operation	<ul style="list-style-type: none"> - The conditions of the site, including terrain, soil and weather - A safe working distance of at least two tree lengths between workers must be maintained - No unauthorised person within two tree lengths, or directly below on steep slopes. - Working in a 'pairing system' so that regular contact with partner is maintained. - No felling if wind conditions are such that control over the felling direction will be lost - Operators on site should all have a whistle to raise the alarm in the event of an accident - Ensure that all underground and overhead way-leaves have been accurately identified before felling commences - Ensure a clearance zone of two tree lengths is established each side of an overhead power line. - Signs must be erected warning others of the work carried out - Additional measures taken if public likely to enter the two tree length exclusion zone (e.g. banks-man near paths etc.)

ASSESSMENT ACTIVITIES	ASSESSMENT CRITERIA
5. Prepare the site for felling	<ul style="list-style-type: none"> - Control measures identified in the Site Specific Risk assessment are applied. - Remove debris from around the base of the tree and compact vegetation to facilitate felling at ground level. - Remove dead or suppressed trees and any other vegetation adjacent to the tree or in the felling direction that may be a danger - Inspect the tree and adjacent trees for dead wood and insecure branches. - Ensure no Overhead Power Lines are within a length of twice the height of the tree to be felled - Ensure no unauthorized person is within 2 tree lengths distance
6. Prepare the tree for felling	<ul style="list-style-type: none"> - Remove low branches etc. from around the base of the tree and compact vegetation to facilitate felling at ground level. - Inspect the tree and adjacent trees for dead wood and insecure branches. - Assess the tree for lean - Assess the tree for balance - Decide on the felling direction - Identify and clear escape route(s) - Winch set up if required - Communications between winch operator and chainsaw operator are clearly established - Tree inspected for signs of rot and decay - If e.g. rot is detected side buttresses may be retained to give additional side stability to tree
7. Demonstrate knowledge of additional safety considerations that are appropriate especially when felling a large open grown tree	<ul style="list-style-type: none"> - Ensure saw is fully fuelled prior to making felling cuts - Ensure escape route(s) are fully free of debris - The winch (if appropriate) is pre-tensioned to a level determined by the chainsaw operator prior to making felling cuts - Felling wedges can be inserted when cutting the back cut even when using a winch
8. Fell large tree in the required direction	<ul style="list-style-type: none"> - Remove buttresses if appropriate <p>A "sink" is cut to determine felling direction, using:</p> <ul style="list-style-type: none"> - Top sink cut at an appropriate angle - Bottom sink cut is as near to ground level as practicable - Cuts of appropriate depth - Sink cuts meet accurately <p>A boring cut is made into the middle of the sink at appropriate height, depth and width to remove centre of the tree if required</p> <p>The back cut is / cuts are made using a sequence of cuts appropriate to site conditions and felling method:</p> <ul style="list-style-type: none"> - Introduction of boring cut - Cut(s) at appropriate height above level of sink - Appropriate felling aid tools are inserted as required to fell tree <ul style="list-style-type: none"> - A hinge is retained of adequate dimensions - Appropriate felling aid tools are used safely as required - A prepared escape route is used as soon as the tree begins to fall - Site checked for safety once tree has fallen
9. Demonstrate knowledge of optional techniques that help to ensure the felling direction and / or quality of timber is maintained when felling large trees	<ul style="list-style-type: none"> - Tree weighted forwards is felled on a hold to prevent from going early, but boring is required from both sides because of tree diameter - Tree weighted backwards is felled with the aid of wedges and / or an adequate fully anchored winch - Tree weighted to the side is felled on an adequate hinge with operator completing the back cut on the safe side.

Part 2a: Remove branches by snedding

ASSESSMENT ACTIVITIES	ASSESSMENT CRITERIA
1. Identify safety points when planning the branch removal procedure	<ul style="list-style-type: none"> - Beware of falling over or into hidden obstacles - Avoid chainsaw bar coming into contact with obstruction causing kick back injury or saw damage - Plan sequence of work so that an escape route is available at all times - Only one person to work on the timber attached to the crown - Ensure that bystanders and other operators are kept at a safe distance - Never work below felled tree - Ensure crown is in a stable condition before any cutting commences - Use of winch or suitable rope for stabilising or turning crown if necessary
2. Sned the tree using the lever and/or pendulum method	<p>Safety Criteria include:</p> <ul style="list-style-type: none"> - Correct stance and support of the saw on tree or right leg - Left thumb around the front handle - Neither handle released while the chain is moving - Apply chain brake if reaching across bar - Apply chain brake when negotiating obstacles - Avoid walking when saw is on same side of tree as operator - Avoid reaching too far round with saw on far side of tree <p>Do <u>not</u>:</p> <ul style="list-style-type: none"> - Cut towards legs or body - Use tip of guide bar - Overreach with chainsaw - Straddle the stem - Work on lower side of tree on side slopes if there is a risk of rolling <p>Choice of work method:</p> <ul style="list-style-type: none"> - Sequence of cuts and position of the saw to remove branches is appropriate for the branching habit - All branches removed flush with the stem.
3. Demonstrate knowledge of alternative snedding methods	<ul style="list-style-type: none"> - Lever method 1-2-3 for branches spaced or grouped at e.g. > 70 cm intervals - Lever method 1-2-3-4-5-6 for branches spaced or grouped at e.g. < 70 cm apart - Pendulum method for light branches - De-limbing technique on heavier branches
4. Remove the top of the tree	<ul style="list-style-type: none"> - Cut top at appropriate diameter - Remove top with a safe method of cutting - Dispose of top according to Job Specification
5. Remove remaining branches	<ul style="list-style-type: none"> - Turn stem using appropriate aid tools/techniques - Use stem for protection when removing remaining branches - Use a safe and effective method to sever remaining branches - All branches removed flush with the stem.
6. Leave site in tidy condition	<ul style="list-style-type: none"> - Ensure no branches are left on fences, paths, roads, timber stacks, young trees etc. or in ditches, ponds, waterways etc. - Brush stacked tidily, if appropriate, ready for subsequent handling (e.g. for a woodchipper)

Part 2b: Remove branches by de-limb

ASSESSMENT ACTIVITIES	ASSESSMENT CRITERIA
1. Identify safety points when planning the branch removal procedure	<ul style="list-style-type: none"> - Beware of falling over or into hidden obstacles - Avoid chainsaw bar coming into contact with obstruction causing kick back injury or saw damage - Plan sequence of work so that an escape route is available at all times - Only one person to work on the timber attached to the crown - Ensure that bystanders and other operators are kept at a safe distance - Never work below felled tree - No use of saw above shoulder height - Ensure crown is in a stable condition before any cutting commences - Use of winch or suitable rope for stabilising or turning crown if necessary
2. De-limb the trunk and crown	<ul style="list-style-type: none"> - Small branchwood removed before cutting main branches as appropriate - Observe tension in branches, especially those supporting main stem - Work only from compression side of branches under severe 'side' tension - Compression and tension forces are assessed and appropriate cuts used - Branchwood and cordwood is snedded and stacked as work progresses appropriate to the method of disposal. - Heavy branches gradually reduced in length - Work inwards carefully to deal with ascending and overhanging branches on the upper side of the stem - Do not work under overhanging limbs - Retain main supporting branches on stem - Roll the trunk with a winch to bring branches over shoulder height to a safe cutting level - Sequence of cuts and position of the saw to remove branches is appropriate for the branching habit - Correct stance and support of the saw on tree or right leg
	<ul style="list-style-type: none"> - Left thumb around the front handle - Neither handle released while the chain is moving - Work from top side of the tree on side slopes - Saw is switched off or chain brake applied before clearing severed branches - Sned flush to stem only when branches removed and trunk/crown in a stable position on the ground.
3. Leave site in tidy condition	<ul style="list-style-type: none"> - Ensure no branches are left on fences, paths, roads, timber stacks, young trees etc. or in ditches, ponds, waterways etc. - Brash stacked tidily, if appropriate, ready for subsequent handling (e.g. for a woodchipper)