

LEVEL 2

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

ASSESSMENT SCHEDULE

CS32

FELL & PROCESS MEDIUM SIZED TREES

(pre-requisite CS30 and CS31)

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

This unit covers trees whose effective diameter at felling height is between 380mm and 760mm (15" and 30") (i.e. 1-2 times guide bar length)
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

At the Assessment the Assessor will evaluate each activity against the following criteria:

- 4 = Exceeds the requirements of the assessment criteria for both the practical performance and the underpinning knowledge, with no 'critical' faults. Delivering a safe, polished, efficient, unsupervised performance of the practical skill.
- 3 = Satisfies the requirements of the assessment criteria for both the practical performance and the underpinning knowledge, with no 'critical' faults. Candidate has sufficient fluency to perform the task safely, unaided and unsupervised.
- 2 = Does not fully satisfy the requirements of the assessment criteria. Candidate required some support or excessive time to perform the task satisfactorily and/or potentially causes a "critical fault". Weaknesses in performance exceed strengths.
- 1 = Does not satisfy the requirements of the assessment criteria. Candidate is unable to demonstrate sufficient skill or underpinning knowledge and weaknesses in performance substantially exceed strengths and/or causes a "critical fault".

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

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 32 – Fell and Process Medium Sized 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 medium sized trees safely and accurately using an appropriate method
4. Sned and / or de-limb medium sized trees
5. Crosscut stems over guide bar length in diameter to a given specification
6. Select winching equipment suitable for takedown of a medium sized tree
7. Take down a hung-up medium sized tree with a winch

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

The assessment comprises a minimum of four parts, three compulsory parts 1, 3 & 4 and two optional parts, either 2a **and/or** 2b. The unit will be endorsed according to the method of removing branches (either CS32a -Sned or CS32b - Delimb).

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|---------|---|
| Part 1 | Fell medium sized trees |
| Part 2a | Remove branches by Snedding |
| Part 2b | Remove branches by De-limbing |
| Part 3 | Crosscut felled stems over guide bar length (15") in diameter up to 760mm (30") |
| Part 4 | Takedown of medium sized hung-up trees using a winch |

Candidates must successfully achieve all Assessment Activities unless otherwise specified.

Assessment and site requirements:

- Range of trees with an effective diameter at felling height of between and 380mm (15") and 760mm (30") (i.e. 1-2 times guide bar length), either conifer or broad-leaved, or both, of which some can be made to hang up in neighboring trees
- Rear handled chain saw in good condition [maximum recommended guide bar length: 380mm (15")]
- Sufficient fuel and oil for the assessment, appropriate to saw model
- Appropriate felling aids (e.g. felling lever, wedges, sledge hammer etc.)
- A winch and/or pulling equipment appropriate to the tree size should be available
- Stump treatment if applicable

A minimum of two trees must be felled to the required standard, one of which may be hung up for assessment in Part 4.

If a tractor mounted winch is used, the winch operator must show evidence of competency to operate the winch

When crosscutting timber of high intrinsic value, measuring and marking of best logs by a third party is acceptable.

Part 1: Fell medium sized 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-sag outer clothing - Personal First Aid Kit - Whistle
3. 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.)
4. 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

ASSESSMENT ACTIVITIES	ASSESSMENT CRITERIA
5. Prepare the tree for felling	<ul style="list-style-type: none"> - Brushing (if required) carried out in a safe and effective manner. - Tree Inspected for signs of rot or decay. - Determine felling technique appropriate to species and climate/site conditions - Determine the felling direction - Select and clear suitable escape routes - A "bench" is set up if appropriate - Assess lean of tree in relation to choice of felling direction and choose an appropriate felling method
6. Fell trees in the required direction accurately	<ul style="list-style-type: none"> - Remove buttresses or cut into root spurs to prevent tearing where appropriate <p>A "sink" is cut to determine felling direction, using:</p> <ul style="list-style-type: none"> - Safe stance - Top sink cut at an appropriate angle and height - Bottom sink cut is as near to ground level as practicable - Cuts of appropriate depth - Sink cuts meet accurately - Chain brake applied as appropriate <p>The Main felling cut is / cuts are made using:</p> <ul style="list-style-type: none"> - A sequence of cuts chosen appropriate to site conditions and felling method - Safe stance - Safe introduction of boring cut - Level cut(s) at appropriate height above level of sink - Appropriate felling aid tools are inserted as required to fell tree - A hinge is retained of adequate dimensions - Safe withdrawal of the saw - Chain brake used as appropriate <ul style="list-style-type: none"> - Appropriate felling aid tools are used safely as required (e.g. wedges are driven with an adequate sledge hammer) - A prepared escape route is used as soon as the tree begins to fall - Site checked for safety once tree has fallen

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.

ASSESSMENT ACTIVITIES	ASSESSMENT CRITERIA
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-limbing

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
2. (continued)	<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. - Brush stacked tidily, if appropriate, ready for subsequent handling (e.g. for a woodchipper)

Part 3: Crosscut felled stems over guide bar length (15") in diameter

ASSESSMENT ACTIVITIES	ASSESSMENT CRITERIA
1. Demonstrate knowledge of the safety considerations required during crosscutting	<ul style="list-style-type: none"> - The minimum safe working distance from other people is 5 metres or twice the length of the longest produce, whichever is the greater. - The chain brake is used appropriately if the operator walks with engine running, if the saw is placed on the ground or before taking a hand off the saw - The chainsaw is switched off prior to removing a trapped saw. - Avoid chainsaw bar coming into contact with ground or 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 - Never work below timber on a slope - Ensure timber is in a stable condition before any cutting commences (Use winch or suitable rope for stabilising crown if necessary)
2. Demonstrate knowledge of how to remove a trapped saw	<ul style="list-style-type: none"> - Switch off and / or apply chainbrake - Lever the timber up / down to open the kerf - Drive a wedge (not steel) into closed kerf - Use another saw to free the trapped saw, cutting the timber at least 300mm (12") from trapped saw
3. Crosscut pole length timber to a specification	<ul style="list-style-type: none"> - Safe stance - Use of reducing cuts as appropriate - Correct Boring technique - Correct angle and depth of cuts - Compression wood cut first as appropriate - Location of final (tension) cut - Correct Use of throttle - Accuracy of cuts - Use of chain brake - Accuracy of measurement within reasonable tolerance - Appropriate aids used for rolling / lifting
4. Demonstrate knowledge of requirements to consider when timber is stacked	<ul style="list-style-type: none"> - Appropriate aids used for lifting, rolling or levering - Quality of stacking must be to an agreed job specification - Stacks should be marked with a warning sign - Manually constructed stacks are limited to 1 metre high - Position of stack appropriate to method of extraction

Part 4: Takedown of Hung-up trees using a winch

ASSESSMENT ACTIVITIES	ASSESSMENT CRITERIA
1. Prepare the site to facilitate take down	<ul style="list-style-type: none"> - Assess position of tree and check condition of hinge - Remove debris and obstacles from take down route - Decide on the final felling direction - Prepare new escape routes as appropriate - Select and position winch equipment as required - No unauthorised person within two tree lengths or directly below on steep slopes
2. Demonstrate knowledge of the safety considerations when selecting the winching equipment used	<ul style="list-style-type: none"> - The safe working load (S.W.L.) limit or pulling capacity of the winch should be known - Safety features of the winch (e.g. shear pins) are identified - Cables and shackles selected must be compatible with the winching system used - SWL of strops or slings used in various configurations must be known - A pulley of known SWL can be used to increase the winching capacity of the winch - Examine all equipment and reject if damaged - Capacities of strops or slings, shackles, pulleys, anchor points, etc. must accommodate increased load when, e.g. double –rigging with pulleys. - Anchor points (e.g. ground anchors, trees or stumps) must be judged carefully for capacity to hold load.
3. Partially sever the hinge with the chainsaw	<ul style="list-style-type: none"> - Correct stance - Safe position (not directly behind tree) - Position and angle of cuts for removal of appropriate part of the hinge (e.g. "letterbox" cut) - Safe withdrawal of the saw - Approximately 10% -20% of hinge left to support the tree on each/either side - Safe placement of the saw on completion of cuts

ASSESSMENT ACTIVITIES	ASSESSMENT CRITERIA
4. Take down a hung up tree using a winch	<ul style="list-style-type: none"> - Stump Shaped (if applicable) e.g. by cutting a ramp - Supporting remnants of hinge is taken off with e.g. small angled cuts from side of tree <p>Winch set-up taking into consideration:</p> <ul style="list-style-type: none"> - Position of strop on the butt - Attachment of winch cable to strop - Position and anchorage of winch - Communication with winch operator is clearly established (if applicable) - Appropriate PPE is used to handle cable <hr/> <p>Winch operated:</p> <ul style="list-style-type: none"> - Position of winch operator - Winch is operated until tree falls - Reposition strop at butt or reposition anchor as appropriate - Offset winch with e.g. a snatch block on steep slopes or around obstacles - Use escape route(s). - Tree is winched until stable condition on the ground - Strops removed, checked and stowed. - Winch rope rewound correctly
5. Demonstrate knowledge of the safety points that the chainsaw operator needs to consider in relation to the winching operation	<ul style="list-style-type: none"> - The winch cable must be free from obstruction - No-one must enter the triangle formed by the cable when offset pulling. - Clear pre-determined communications are essential when a third party is operating the winch. - The chainsaw operator is in charge of the operation and gives the instructions to the winch operator. - The winch cable must never be choked back on itself around the tree. - Do not winch from a position that is too close to the butt, or winch directly downhill. Offset with pulley if necessary - Release winch tension before working on felled tree - If chainsaw operator cannot clearly see winch operator a radio or third person must be used to communicate