

**LEVEL 2 AWARD
IN
CHAINSAW AND RELATED OPERATIONS
CS 32 – Fell and Process Trees Over 380mm**

(Pre-requisite CS30 and CS31)

Maximum recommended guidebar length: 380mm (15")

This unit covers trees whose effective diameter at felling height is over 380mm (15") (i.e. 1-2 times guidebar length)
Learners may be assessed in Part 2a – Remove branches by snedding or Part 2b – Remove branches by De-limbing or both

ASSESSMENT SCHEDULE

NPTC LEVEL 2 AWARD IN CHAINSAW AND RELATED OPERATIONS

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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 Learners

The Certificate of Competence/ID Card

Certificates of Competence/ID Cards will be awarded to Learners 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 Learners 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 Learner. 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 learners, or the learners work place supervisors, or anyone else who might have a vested interest in the outcome, carry out the assessment.

The minimum age limit for Learners 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 Learner 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 learner 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 Learner 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. Learner has sufficient fluency to perform the task safely, unaided and unsupervised.
- 2 = Does not fully satisfy the requirements of the assessment criteria. Learner 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. Learner 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

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

1. Assessors must hold a current 'First Aid at Work' Certificate.
2. It is strongly recommended that Learners hold at least a recent, recognised 'Emergency First Aid at Work (EFAW)' Certificate.
3. All chainsaws used in the assessments must comply with Arboriculture and Forestry Advisory Group (AFAG) Safety Guide 301, HSE Chainsaws at Work INDG317(rev1), in terms of safety features, and be a model and size suited to the task(s) required.
4. Recommended guidebar lengths should be observed, although variations may be accepted at the discretion of the Assessor where this is appropriate to the task.
5. Learners should be familiar with the saw, associated machinery and appropriate tools 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 by both the learner and the assessor. All PPE used must comply with AFAG Safety Guide 301, HSE Chainsaws at Work INDG317 (rev1), 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 (AFAG 802), along with appropriate fire fighting and suitable welfare facilities e.g. Hand cleansing wipes.
9. The learner **must** be equipped with a personal first aid kit in accordance with AFAG802.
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. All recorded risk assessment information should be clearly legible and accessible to all operators and completed for all locations where assessment activities are scheduled to take place.
11. Manual handling techniques must comply with current legislation.
12. Any necessary permission 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).
13. All equipment being used for this assessment must comply with relevant requirements of the Provision and Use of Work Equipment Regulations (PUWER) 1998.
14. Information may be sought from the relevant operator manuals or any other appropriate training or safety publication. This **would not** include the NPTC schedule of assessment for the duration of the assessment activity.
15. The current Regulations for transport, handling and storage of fuel and oils must be complied with.
16. Provision must be made to avoid the risk of environmental pollution.
17. It is the responsibility of the Assessor and the Learner to ensure that any additional requirements and provisions are met as relevant to this qualification.
18. At all times during the felling operation, learners must act in a way so as not to endanger themselves, the assessor or any other person or equipment. Work must be carried out to achieve the requirements of the assessment criteria in accordance with all relevant and current legislation and good practice guidance (e.g. INDG317, Chainsaws at Work, AFAG Guides 302, 303, 304 and 307).
19. If required, relevant records must be accurately kept.
20. Appropriate steps should be taken to maintain effective teamwork in respect of other persons on site during the assessment. This may include taking steps to ensure effective communication and safety precautions.
21. Assessors must ensure that they are within their verification time periods for the assessments they wish to undertake as per NPTC Assessor Code of Practice.

If these conditions are not observed this may result in the assessment being terminated and/or the learner not meeting the required standard.

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 learner 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

Learning Outcomes

The learner will be able to:

1. Identify the Risk Assessment and Emergency procedures on the work site
2. Select equipment required for safe and effective felling
3. Fell larger sized trees safely and accurately using an appropriate method
4. Sned and / or de-limb larger sized trees
5. Crosscut stems over guidebar length in diameter to a given specification
6. Select winching equipment suitable for takedown of a larger sized tree
7. Take down a hung-up tree with a winch

Prior to assessment in this qualification, learners must successfully achieve **CS Units 30.1, CS30.2 and 31.**

The assessment comprises four parts:

Part 1 Fell trees over 380mm in diameter

Part 2a Remove branches by Snedding or Part 2b Remove branches by De-limbing

Part 3 Crosscut felled stems over guidebar length (15") in diameter

Part 4 Takedown of larger sized hung-up trees using a winch

The unit will be endorsed according to the method of removing branches (either CS32a -Sned or CS32b – De-limb).

Qualifications and Credit Framework (QCF) – Unit Value

The award to Fell and Process Trees Over 380mm has a credit value of 3 credits on the QCF

Assessment and site requirements:

- Range of trees with an effective diameter at felling height of over 380mm (15") (i.e. 1-2 times guidebar length), either conifer or broad-leaved, or both, of which some can be made to hang up in neighboring trees
- At least one tree to be felled must be at least 560mm (22.5") in diameter at the effective felling height
- Rear handled chainsaw in good condition
- Sufficient fuel and oil for the assessment, appropriate to saw model
- Appropriate felling aids (e.g. felling lever, wedges, sledge hammer etc.)
- A winch appropriate to the tree size must 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.

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

Part 1: Fell trees over 380mm diameter	
ASSESSMENT ACTIVITIES	ASSESSMENT CRITERIA
1. Inspect the site prior to starting work	<ul style="list-style-type: none"> - Walk site and identify hazards - Assess the risks - Remove hazard or implement appropriate control measures - Confirm that site is acceptable for the operation - Report to the appropriate person if site or equipment is unsuitable
2. Select and wear Personal Protective Equipment (PPE, Safety clothing)	<p>PPE in accordance with health and safety requirements and Risk Assessment e.g.</p> <ul style="list-style-type: none"> - Chainsaw safety trousers - Chainsaw safety boots - Safety helmet - Eye & ear protection - Gloves appropriate for the task - Non-snag outer clothing - Personal First Aid Kit - Whistle
3. Demonstrate knowledge of planning the felling operation	<ul style="list-style-type: none"> - The conditions of the site, including terrain, soil and weather - Identify the correct trees to be felled by agreed method - 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 failsafe method of communication (e.g. 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 clearances as laid down within AFAG 804 are maintained when felling in proximity to overhead power lines - Use of brash mat or other system for ground protection as appropriate - Use of natural felling bench where available to aid ergonomic working - 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.) - Once any felling cut has been started on a tree, the tree must not be left standing
4. Check and prepare chainsaw for operation	<ul style="list-style-type: none"> - Chain tension and condition checked for safe and effective use - Safety features checked for condition and function - External nuts and bolts checked for security - Chainsaw contains sufficient fuel and chain oil for operations
5. Prepare the site for felling	<ul style="list-style-type: none"> - Control measures identified in Site Specific Risk Assessment are applied - Determine the felling direction in relation to method of extraction or conversion - Set up a felling bench if required - Remove debris from around the base of the trees to be felled and compact vegetation to facilitate felling at appropriate height - 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 felling area and adjacent trees for dead wood and insecure branches - Ensure no unauthorised person is within 2 tree lengths distance

Part 1: Fell trees over 380mm diameter	
ASSESSMENT ACTIVITIES	ASSESSMENT CRITERIA
6. 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 - Assess lean of tree in relation to choice of felling direction and choose an appropriate felling method - Remove buttresses or cut into root spurs to prevent tearing where appropriate
7. Fell tree in the required direction accurately with the use of aid tools	<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 used safely (e.g. wedges etc.) - A hinge is retained of adequate dimensions - Safe withdrawal of the saw - Chain brake used as appropriate - A prepared escape route is used as soon as the tree begins to fall - Site checked for safety once tree has fallen

Part 1: Fell trees over 380mm in diameter (continued)

ASSESSMENT ACTIVITIES	ASSESSMENT CRITERIA
8. Fell a larger tree that is weighted in the felling direction	<ul style="list-style-type: none">- Determine felling method and safe working zones- Select and prepare escape route(s)- Prepare a sink of the correct dimensions- Keep head and body away from rear of tree- Bore cuts must be used in order to reduce the size and diameter of the tree, leaving a holding tag of appropriate size at the rear of the tree- Cut away from the hinge to leave a 'hold' at the rear- Sever hold appropriately- A hinge is retained of adequate dimensions- Appropriate aid tools are used safely if required to fell tree- A prepared escape route is used as soon as the tree begins to fall- Site checked for safety once tree has fallen
Demonstrate knowledge of the consequence of not using the correct technique to a tree is that is weighted in the felling direction	<ul style="list-style-type: none">- The tree can split and hit the operator- The tree can split and throw the chainsaw- A spur or root can fly up and hit the operator

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 under a 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>Good Working Practice will 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 - Not walking when the saw is on the same side of the tree as the operator without applying the chainbrake - Avoid working on lower side of tree on side slopes <p><u>Do not:</u></p> <ul style="list-style-type: none"> - Reach too far round with saw on far side of tree - Cut towards legs or body - Use tip of guidebar - Overreach with chainsaw - Straddle the stem <p>Choice of work method:</p> <ul style="list-style-type: none"> - Systematic Sequence of cuts and position of the saw to remove branches as appropriate for the branching habit - All branches removed flush with the stem
3. 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
4. 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 - Use under-sweep technique if applicable - All branches removed flush with the stem
5. 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)

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 under a 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 - Spring back from cut branches or saplings when severed - Tree rolling onto operator if working on lower side of tree on a slope
2. De-limb the trunk and crown	<ul style="list-style-type: none"> - Small branch wood 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 - Branch wood and cordwood is de-limbed 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 - 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 - De-limb 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 guidebar length (380mm) in diameter

ASSESSMENT ACTIVITIES	ASSESSMENT CRITERIA
<p>1. Demonstrate knowledge of the safety considerations required during cross cutting.</p>	<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 - Appropriate PPE is worn by operators - A safe stance is adopted when using the chainsaw - The chain brake is used appropriately The chainsaw is switched off and/or chainbrake applied 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)
<p>2. Cross cut pole length timber to a specification</p>	<ul style="list-style-type: none"> - Correct use of PPE during chainsaw operations - Safe starting procedure adopted - Safe stance including: <ul style="list-style-type: none"> • Legs and feet are clear of the chain • Chainsaw is stable/secure/supported during crosscutting • Minimal risk of muscular/skeletal injury - Bar aligned to maintain accuracy - Head out of line of chain - Use of throttle to cut safely and efficiently - Cutting techniques employed to complete severance of timber - Appropriate boring technique - Use of reducing cuts as appropriate - Sequence of cuts to prevent saw becoming trapped - Appropriate aids used for lifting, rolling or levering - Tension and compression cuts should meet - Chain brake used appropriately - Accuracy of measurement within reasonable tolerance - Saw switched off and left in safe position, bar cover replaced
<p>3. Demonstrate knowledge of requirements to consider when timber is stacked</p>	<ul style="list-style-type: none"> - Use of appropriate aids to handle / move products - Correct stance during lifting - Avoiding excessive lifting by levering, sliding, rolling - Quality of stacking must be to an agreed job specification - Position of stack appropriate to method of extraction - Manually constructed stacks are limited to 1 metre high - Stacks should be left in a safe, stable condition - Roads, footpaths, etc. clear of debris and waste materials

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"> - Additional appropriate PPE should be used - All equipment must be used in accordance with the manufacturers instructions - The safe working load (SWL) limits of all equipment to be used 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 - 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 or offset 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 to side of tree - Position and angle of cuts - Cutting technique for removal of appropriate part of the hinge - Safe withdrawal of the saw - Approximately 10% -20% of hinge left to support the tree on each/either side appropriate to take down method utilised - Safe placement of the saw on completion of cuts
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 setup 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 <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 in stable condition to be processed - Strops removed, checked and stowed. - Winch rope rewound correctly

Part 4: Takedown of Hung-up trees using a winch	
ASSESSMENT ACTIVITIES	ASSESSMENT CRITERIA
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 - Awareness of loads applied through different configurations during winching - No-one must enter the triangle formed by the cable when offset pulling. - Do not step over the winch cable - 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 - If chainsaw operator cannot clearly see winch operator a radio or third person must be used to communicate