

**LEVEL 2 AWARD  
IN  
CHAINSAW AND RELATED OPERATIONS (QCF)**

**CS 48 – Use of Powered Pole Pruners**

**ASSESSMENT SCHEDULE**

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## NPTC Level 2 AWARD in Chainsaw and Related Operations

### CS 48 – Use of Powered Pole Pruners

#### 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

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](http://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

## 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](http://www.nptc.org.uk)

## Safe Practice

**At all times during the assessment the powered pole pruner 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 Learners hold at least a recent, recognised 'Emergency First Aid' Training Certificate.
3. All powered pole pruners used in the assessments must comply with all current, relevant safety Guidance in terms of safety features, and be a model and size suited to the task(s) required.
4. Learners should be familiar with the machine that they are going to use. in accordance with all relevant and current legislation and good practice guidance (e.g. INDG317, Chainsaws at Work, AFAG Guide 301).
5. A spare working powered pole pruner must be available.
6. Appropriate Personal Protective Equipment (PPE) must be worn at all times. All PPE used must comply with Health and Safety Executive publications and current legal requirements in terms of specification and use.
7. A First Aid kit meeting current regulations, of the appropriate size for the number of persons on site, must be available.
8. The learner must be equipped with a personal first aid kit.
9. 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.
10. 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).
11. All equipment being used for this assessment must comply with relevant requirements of the Provision and Use of Work Equipment Regulations (PUWER) 1998.
12. Information may be sought from the relevant operator manuals or any other appropriate training or safety publication.
13. The current Regulations for transport, handling and storage of fuel and oils must be complied with.
14. Provision must be made to avoid the risk of environmental pollution.
15. 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.

**If these conditions are not observed this may result in the Learner not meeting the required standard.**

## Learning Outcomes

The learner will be able to:

1. Identify, inspect and comment on key parts of the powered pole pruners
2. Prepare the powered pole pruner for work safely without risk to themselves, other people or the environment
3. Carry out daily and routine maintenance on the powered pole pruner
4. Operate the powered pole pruner safely and effectively and comfortably in accordance with the practical risk assessment
5. Operate the powered pole pruner safely without risk to themselves, other people and the environment
6. State the identified knowledge that underpins understanding of operating a powered pole pruner
7. Identify the risk assessment and emergency procedures on a work site

The assessment is divided into 2 compulsory parts:

- Part 48.1 Maintenance of the Powered pole pruner
- Part 48.2 On-site preparation and basic pruning

Learners must successfully achieve all Assessment Activities unless otherwise specified. **(NB. Learners who have already achieved CS30.1 will not be required to undertake part 48.1. This is indicated in the text.)**

## Qualifications and Credit Framework (QCF) – credit value

The Award in the use of powered pole pruners has a credit value of 2 credits on the QCF.

## Assessment and site requirements:

- The assessment for part 48.1 should ideally be undertaken under workshop conditions. Maintenance of the powered pole pruner can be completed at the work site, provided it can be held securely for sharpening and the assessment can be conducted effectively without compromising other site work activities.
- The learner should be equipped with a powered pole pruner appropriate to their normal working environment in good condition.
- The learner should be equipped with the correct tools, equipment, product and maintenance manuals appropriate to the model of the powered pole pruner to enable the powered pole pruner to be maintained and used in accordance with the manufacturer's guidance.
- The learner should be equipped with sufficient fuel and oil, appropriate to the make and model of the powered pole pruner, for the assessment for unit 48.2.
- The assessment should be undertaken on a tree(s), with sufficient side branches at a reasonably low level.
- Warning signs must be erected as appropriate to risk assessment.

<b>Part 48.1: Maintenance of the powered pole pruner (Not assessed if learner has already achieved CS30.1)</b>	
<b>ASSESSMENT ACTIVITIES</b>	<b>ASSESSMENT CRITERIA</b>
1. Observe safety precautions and wear appropriate PPE	<p>Unless otherwise stated in manufacturers handbook or operator manual, PPE should include:</p> <ul style="list-style-type: none"> <li>- Safety boots</li> <li>- Work gloves</li> <li>- Eye protection for airline use</li> </ul> <ul style="list-style-type: none"> <li>- Washing facilities in case of petrol/oil contact with skin.</li> <li>- All debris resulting from cleaning operations is correctly disposed of</li> </ul>
2. Inspect chain for wear or damage to component parts and comment on why a chain might be accepted or rejected	<p>Drive link</p> <ul style="list-style-type: none"> <li>- Shape and profile of tang must be maintained to clear bar groove of debris and carry oil along the bar</li> <li>- The gauge must match the thickness of the bar groove'</li> </ul> <p>Tie straps</p> <ul style="list-style-type: none"> <li>- Tie straps, if worn can damage bar and sprockets</li> <li>- Sets the distance between drive links to match sprockets (chain pitch)</li> </ul> <p>'Rivets'</p> <ul style="list-style-type: none"> <li>- Act as bearings and must obtain oil from bar</li> </ul> <p>Cutters</p> <ul style="list-style-type: none"> <li>- Can be obtained in a variety of types for different applications</li> </ul> <p>Depth gauge</p> <ul style="list-style-type: none"> <li>- regulates the amount of wood the cutter scoops out, and are sometimes ramped to act as guard link</li> </ul> <p>Guard links</p> <ul style="list-style-type: none"> <li>- Smooth out cutting action of the chain</li> <li>- Reduce potential for kick back</li> <li>- Reduce vibration</li> </ul>
3. Demonstrate knowledge of information required to select a replacement chain for machine	<p>Guidebar, sprocket and chain must be compatible, as shown in manufacturer's charts, in relation to:</p> <ul style="list-style-type: none"> <li>- Chain pitch</li> <li>- Gauge/ thickness of drive links</li> <li>- Number of drive links/ chain/ bar length</li> </ul>
4. Sharpen chain in accordance with manufacturers information	<ul style="list-style-type: none"> <li>- Identify correct sharpening angles and file size</li> <li>- Check chain for damage and select first cutter to sharpen</li> <li>- Chain secured in chain vice or on bar in bench vice(ensuring correct chain tension) or timber vice</li> <li>- Cutters sharpened using file of correct size with handle fitted</li> <li>- Top and side plate angles maintained</li> <li>- Consistent length of cutters maintained</li> <li>- Burrs removed if applicable</li> <li>- Height and profile of depth gauges maintained</li> </ul>
5. Demonstrate knowledge of reasons for chain maintenance	<p>Filing angles</p> <ul style="list-style-type: none"> <li>- Enhances cutting performance</li> <li>- Working corner must be properly sharpened</li> </ul> <p>Cutter length</p> <ul style="list-style-type: none"> <li>- Cutter length directly affects cutter height</li> <li>- Variations can lead to: <ul style="list-style-type: none"> <li>- Increased vibration</li> <li>- Reduced efficiency</li> <li>- Saw not cutting in straight line</li> <li>- Increased risk of kick back</li> <li>- Uneven wear of bar</li> </ul> </li> </ul> <p>Depth gauge setting</p> <ul style="list-style-type: none"> <li>- Reduces risk of kick back</li> <li>- Reduces risk of chain breakage</li> <li>- Reduces chain vibration and thus the risk of Hand - arm vibration damage</li> <li>- Reduces excessive wear on chain components</li> <li>- Achieves optimum cutting speed</li> </ul>

**Part 48.1: Maintenance of the powered pole pruner (Not assessed if learner has already achieved CS30.1)**

ASSESSMENT ACTIVITIES	ASSESSMENT CRITERIA
<p>6. Maintain guidebar</p> <p>Demonstrate knowledge of reasons for maintaining guidebar</p>	<ul style="list-style-type: none"> <li>- Identify uneven and damage rails and correct bar groove depth checked</li> <li>- Blueing and cracking identified and commented on</li> <li>- Burrs removed correctly</li> <li>- Groove and oil holes cleared correctly</li> <li>- Nose sprocket greased if applicable</li> <li>- Straightness of bar checked and commented on</li> <li>- Bar turned to reduce wear</li> <li>- Reduce vibration and allow straight cutting</li> <li>- To prevent burr formation</li> <li>- Prevent over-heating</li> <li>- Allow lubrication of chain</li> <li>- Reduce sprocket wear</li> <li>- Bar turned to maintain even wear</li> </ul>
<p>7. Reassemble chain, bar and side plate and comment on chain tension</p>	<ul style="list-style-type: none"> <li>- Chain and bar refitted to power unit</li> <li>- Ensure tensioning mechanism correctly located</li> <li>- Side plate fitted and nuts hand tightened</li> <li>- Side nuts tightened and 'cold' tension confirmed</li> <li>- function of chain, sprockets and bar checked with saw completely assembled and running</li> </ul> <p>Chain too tight:</p> <ul style="list-style-type: none"> <li>- Wear on bottom of tie straps and cutter body</li> <li>- Slow pick-up on acceleration</li> <li>- Power loss</li> <li>- Damage to sprocket and bearings</li> <li>- Over heating bar and chain</li> <li>- Excessive wear on bar and rails</li> </ul> <p>Chain too slack:</p> <ul style="list-style-type: none"> <li>- Wrong cutting angle</li> <li>- Excessive vibration</li> <li>- Increased risk of chain derailing</li> <li>- Wear on rivets and heel</li> <li>- Excessive wear between bar rails</li> <li>- Increased wear at top side of bar on entry and underside of bar at nose sprocket</li> <li>- Chain creep at tick over</li> </ul>
<p>8. Demonstrate knowledge of air filter maintenance</p>	<ul style="list-style-type: none"> <li>- Filter prevents debris entering carburettor and needs to be clean to maintain air/ fuel ratio and therefore performance</li> <li>- Filter cleaned using brush or washed in water with detergent then dried</li> <li>- Excess debris removed from around filter prior to removal</li> <li>- Filter removed, protecting carburettor</li> <li>- Filter maintained appropriate to condition</li> <li>- Filter refitted correctly</li> </ul>
<p>9. Clean power unit / covers and inspect for damage</p>	<ul style="list-style-type: none"> <li>- Debris removed from fins and side case air intake</li> <li>- External screws, nuts and bolts present and secure</li> </ul>
<p>10. Demonstrate knowledge of sprocket replacement procedure for relevant powered pole pruner type</p>	<ul style="list-style-type: none"> <li>- Ideal ratio: 1 sprocket to 2/ 3 chains</li> <li>- Remove cover</li> <li>- Remove retaining clip</li> <li>- Dismantle sprocket assembly</li> <li>- Sprocket checked for wear and comment made on condition</li> </ul>

**Part 48.1: Maintenance of the powered pole pruner (Not assessed if learner has already achieved CS30.1)**

ASSESSMENT ACTIVITES	ASSESSMENT CRITERIA
11. Check and/or change spark plug as appropriate and comment on condition	<ul style="list-style-type: none"> <li>- Engine cover and spark plug removed</li> <li>- Plug checked, and replaced as necessary</li> <li>- Wear/damage assessed visually</li> <li>- Gap size is checked and set if necessary</li>   <li>- If fuel or oil rich, plug dark brown to black: engine cokes / oils up</li> <li>- If fuel starved, plug light brown to white: engine can seize from overheating</li> <li>- Turn it up if adjustable</li> </ul>
12. Service recoil starter mechanism	<ul style="list-style-type: none"> <li>- Starter cover removed and air holes cleared</li> <li>- Cord inspected for wear</li> <li>- Cord and coil spring released and re-tensioned</li> <li>- Pull toggle checked for security</li> <li>- Slack spring cord does not fully retract</li> <li>- Over tight spring binds before cord fully extended</li>   <li>Cord wears at:                             <ul style="list-style-type: none"> <li>- Base of toggle</li> <li>- At attachment to pulley wheel</li> </ul> </li> </ul>
13. Check and/or clean / replace fuel filter  Check function of starter, oil pump and clutch with machine completely assembled and running	<ul style="list-style-type: none"> <li>- Fuel cap removed</li> <li>- Filter located visually (using appropriate tool if required)</li> <li>- Condition of filter determined</li> <li>- Cleaning procedures or replacement as appropriate</li>   <li>- Engine started using safe method</li> <li>- Saw checked for oiling function (e.g. oil throw test or oil present on drive links)</li> <li>- Chain becomes stationery when throttle released</li> </ul>

<b>Part 48.2: On-site preparation and basic pruning</b>	
<b>ASSESSMENT ACTIVITIES</b>	<b>ASSESSMENT CRITERIA</b>
1. Inspect the site prior to starting work	<ul style="list-style-type: none"> <li>- Walk site and identify hazards</li> <li>- Assess the risks</li> <li>- Remove hazard or implement appropriate control measures</li> <li>- Confirm that site is acceptable for the operation</li> <li>- Report to the appropriate person if site or equipment is unsuitable</li> </ul>
2. Demonstrate knowledge of the safety clothing to wear when using the powered pole pruner	<p>PPE is subject to legislative/ HSE requirements and risk assessment but will normally include:</p> <ul style="list-style-type: none"> <li>- Safety boots</li> <li>- Gloves</li> <li>- Head, ear and eye protection</li> <li>- Non-snag outer clothing</li> <li>- Personal first aid kit</li> <li>- Appropriate support shoulder harness for machine</li> </ul>
3. Demonstrate knowledge of the legal and environmental factors that may be present on the work site.	<p>Legal and environmental considerations could be:</p> <ul style="list-style-type: none"> <li>- Tree Preservation Order</li> <li>- Conservation Area</li> <li>- Nesting Birds</li> <li>- Bat Roosts</li> <li>- Presence of other valuable flora and fauna.</li> </ul>
4. Identify and explain the function of the safety features of the powered pole pruner	<ul style="list-style-type: none"> <li>- Positive clearly marked on/ off switch</li> <li>- Head/ eye/ ear defender symbol</li> <li>- Safety throttle</li> <li>- Anti-vibration mounts</li> <li>- Exhaust directing fumes away from operator</li> <li>- Chain cover</li> <li>- Chain type/ low vibration/ guard link</li> </ul>
5. Demonstrate knowledge of safe working practices when using a powered pole pruner	<ul style="list-style-type: none"> <li>- Ensure safe footing, especially on wet or sloping ground</li> <li>- Avoid standing on anything to gain extra height e.g. a ladder,</li> <li>- Do not work alone</li> <li>- Ensure correct stance to avoid muscular/skeletal injury</li> </ul>
6. Demonstrate knowledge of 'reasonable' precautions necessary when organising a work site	<ul style="list-style-type: none"> <li>- Relevant authorities informed about work</li> <li>- Warning signs erected</li> <li>- Exclusion zone set up</li> <li>- Safe working distance of 15 metres is maintained</li> <li>- All operators to carry whistle to raise the alarm in the event of an accident</li> <li>- Suitable first aid kit available</li> </ul>
7. Demonstrate knowledge of the requirements when selecting an appropriate re-fuelling site	<p>An appropriate site would be:</p> <ul style="list-style-type: none"> <li>- A safe distance from buildings</li> <li>- In a shaded area away from work and equipment</li> <li>- A safe distance from any source of ignition</li> <li>- Away from a main fuel store</li> <li>- A position selected to minimise damage to the environment</li> </ul>
8. Demonstrate knowledge of the safety considerations when selecting a site for starting a powered pole pruner	<ul style="list-style-type: none"> <li>- Machine being clear of obstructions</li> <li>- Clear of people by 15 metres</li> <li>- Level area free of objects which could catch the chain</li> <li>- Safe distance from fuelling point</li> </ul>

<b>Part 48.2: On-site preparation and basic pruning (continued)</b>	
<b>ASSESSMENT ACTIVITIES</b>	<b>ASSESSMENT CRITERIA</b>
9. Check powered pole pruner for condition and pre-use operational safety	<ul style="list-style-type: none"> <li>- Chain tension checked</li> <li>- Safety features checked and condition assessed</li> <li>- External nuts and bolts checked for security</li> <li>- Machine contains sufficient fuel and chain oil for operations</li> </ul>
10. Start powered pole pruner from cold	<ul style="list-style-type: none"> <li>- Remove chain cover</li> <li>- Place machine on ground</li> <li>- Ensure no debris can catch chain</li> <li>- Secure power unit</li> <li>- Engage half throttle</li> <li>- Engage choke</li> <li>- Switch on</li> <li>- Find compression</li> <li>- Pull starter cord sharply and firmly</li> <li>- Choke released when engine fires.</li> <li>- Half throttle released when engine runs</li> </ul>
11. Check operational safety of powered pole pruner	<ul style="list-style-type: none"> <li>- Ensure chain lubrication functioning</li> <li>- Chain stationary at tick over</li> <li>- On/ off switch functions</li> </ul>
12. Demonstrate knowledge of actions to take if operational safety checks indicate incorrect machine preparation	<ul style="list-style-type: none"> <li>- The chain creeps around the bar without throttle application</li> <li>- The engine stalls, does not tick over</li>   <li>- Check the tank has oil</li> <li>- Remove the bar and check the oil holes and guidebar groove are clear of debris</li> <li>- Adjust the oil flow if appropriate</li>   <li>- Close the choke</li> </ul>
13. Demonstrate knowledge of:  The terms 'tension' and compression'    The procedure for removing trapped powered pole pruner	<p>Tension:</p> <ul style="list-style-type: none"> <li>- Found on the outside edge of strained timber and when cut into the cut opens e.g. top side of branch</li> </ul> <p>Compression:</p> <ul style="list-style-type: none"> <li>- Found on the inside edge of strained timber and when cut into the cut closes e.g. bottom side of branch</li> </ul> <ul style="list-style-type: none"> <li>- Switch off engine</li> <li>- Work partner lifts end of branch to open the cut</li> <li>- Withdraw the machine</li> </ul> <p>Or</p> <ul style="list-style-type: none"> <li>- Switch off engine</li> <li>- Prop engine on the ground</li> <li>- Lift and prop branch with a trimmed branch or pole</li> </ul>
14. Demonstrate knowledge of symptoms associated with poor cutting performance	<ul style="list-style-type: none"> <li>- Wood dust being produced by blunt chain</li> <li>- Fine chips produced if depth gauges not lowered</li> <li>- Saw may cut in a curve if teeth are different lengths or blunt on one side</li> <li>- Vibration (or kick back) during cutting because of poor sharpening angles and/or too low depth gauge setting</li> </ul>
15. Demonstrate knowledge of pruning techniques using a powered pole pruner	<ul style="list-style-type: none"> <li>- Pruning saw should be operated at less than 60 degrees from the horizontal to reduce risk of injury from falling timber</li> <li>- The machine is retained on the stable part of the branch and not the falling section</li> <li>- Undercutting to prevent tearing of bark on the main stem as the branch pivots on the uncut section of the branch.</li> <li>- Retain a minimum 15m clearance away from power lines and other people</li>   <li>- 1,2,3 cuts</li> <li>- reduce heavier branches in sections</li>   <li>- The branch collar is the slight swelling found where the branch meets the stem</li> <li>- Pruning should be to the outer edge of the collar as the cells within it are specifically adapted to heal wounds</li> </ul>

**Part 48.2: On-site preparation and basic pruning (continued)**

<b>ASSESSMENT ACTIVITIES</b>	<b>ASSESSMENT CRITERIA</b>
16. Remove limb sections using a powered pole pruner	Limb sections should be removed taking the following points into account: <ul style="list-style-type: none"><li>- Plan order of cuts</li><li>- Characteristics and properties of the wood allowed for</li><li>- Suitable sized sections removed</li><li>- Side or reducing cuts used where appropriate</li><li>- Position of cuts</li><li>- Complete overlap of cuts achieved.</li><li>- Cut pieces fall into a safe/ clear area.</li><li>- The branch collar and/ or branch bark ridge is identified when pruning</li><li>- The pruning cut is left as smooth as possible</li></ul>
17. Leave site in tidy condition	<ul style="list-style-type: none"><li>- Ensure no branches are left on fences, paths, roads, timber stacks, young trees etc or in ditches, ponds, waterways etc</li><li>- Brush stacked tidily, if appropriate, ready for subsequent handling (e.g. for a wood chipper)</li></ul>