

**LEVEL 3
NPTC CERTIFICATE OF COMPETENCE
IN THE
THOROUGH EXAMINATION OF
ARBORICULTURAL EQUIPMENT**

**ASSESSMENT SCHEDULE
(Revised Aug 2010)**

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Level 3 NPTC Certificate of Competence in the Thorough Examination of Arboricultural Equipment

Candidate Information

Introduction

The scheme will be administered by City & Guilds, Land Based Services.

City & Guilds 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 Examiners
- Recruit, train and deploy Verifiers
- Manage verification
- Issue certificates to successful Candidates

The Certificate of Competence

Certificates of competence 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 for an application for an assessment but potential Candidates are strongly advised to ensure that they are up to the standards that will be expected of them when they are assessed.

City & Guilds 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 Examiner approved by City & Guilds for that scheme. Under no circumstances can the instructors involved in the preparation of candidates, the candidate's 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

The candidate must be registered through a City & Guilds approved Vocationally Related Qualification (VRQ) Assessment Centre prior to 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 result of the assessment will be recorded on the assessment report form.

The schedule of assessment contains the performance criteria relating to:

- Observation of practical performance
- Assessment of underpinning knowledge

Performance Evaluation

The Examiner will evaluate each activity against the following criteria:

Note that faults will be added up for the whole test, not individual items.

- Safety critical faults – These are faults which could be safety critical to a user such as unsafe items being passed as safe or safe working load given as higher than is safe. One 'safety critical fault' will result in an over all decision of not yet competent.
- Other significant faults – These are serious faults which are not safety critical such as safe items being failed or safe working load miscalculated. Two 'other significant faults' will result in an overall decision of not yet competent.

- Minor faults – These are non serious faults such as wrong MBS or poor reporting. A number of 'minor faults' could result in an overall decision

A list of registered Assessment Centres is available from City & Guilds Land Based Services website (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 City & Guilds 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 Examiners will be subject to a regular standard setting events.

Complaints and Appeals

City & Guilds 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 City & Guilds Equal Opportunities Policy and Complaints and Appeals Procedures, please refer to www.nptc.org.uk

Learning Outcomes

The candidate will be able to:

1. Understand the legislation and other official guidance relating to the examination of arboricultural equipment
2. Understand the definition and status of a "competent person" under LOLER
3. Identify the range of lifting and lowering equipment appropriate to working at height in arboricultural operations
4. Understand the requirements for operator pre-use checks, inspection and record keeping
5. Identify different categories of equipment and their appropriate examination intervals
6. Recognise appropriate marking of equipment to identify individual items
7. Correctly identify levels of wear and damage in a range of arboricultural equipment
8. Record the findings of the "thorough examination" using the appropriate forms
9. Make recommendations for future use and inspection or retirement of equipment, according to findings

Guidance Notes for Candidates

The assessment is divided into two compulsory units:

1. Principles Of "Thorough Examination" Of Arboricultural Equipment (This Unit takes the form of a 1.5 hour written examination paper)
2. "Thorough Examination" Of Arboricultural Equipment (This Unit takes the form of a 2 hour practical test examination of arboricultural equipment)

Candidates must achieve all Assessment Activities in both units.

Safe Practice

At all times, candidates must operate in such a way that they, the Examiner, other persons, or other equipment are not endangered.

If these conditions are not observed this will result in the Candidate not meeting the required standard.

Validation of Equipment

The Examiner will supply 10 items of arboricultural equipment that require inspection under LOLER requirements for the candidate to inspect and report on. It is expected that the equipment will consist of a range of conditions: requiring remedial action, taking out of service or deemed safe to use

Additional Information

All additional information will be provided by the Examiner. Candidates may not use this Assessment Schedule or other notes during either examination.

**UNIT 1 – PRINCIPLES OF “THOROUGH EXAMINATION” OF ARBORICULTURAL EQUIPMENT
(Assessed by a 1.5 hour written paper see Appendix 1 for details)**

Assessment Activity	Assessment Criteria
<p>1. Demonstrate knowledge of legislation and other official guidance relating to arboricultural equipment</p> <p>Management of Health and Safety and Work Regulations (MHSWR) 1999</p> <p>Personal Protective Equipment at Work Regulations 1992</p> <p>Provision and Use of Work Equipment Regulations (PUWER) 1998</p> <p>Lifting Operations and Lifting Equipment Regulations (LOLER) 1998</p>	<ul style="list-style-type: none"> - The Load <ul style="list-style-type: none"> • Type of load • Weight • Centre of gravity - Risk of the Load falling <ul style="list-style-type: none"> • Striking a person • Striking objects below - Risk of lifting equipment striking <ul style="list-style-type: none"> • A person • Other objects - Risk of lifting equipment failing during use - PPE is maintained in an efficient state/good repair - Must have evidence of conformity to appropriate European norms. - Information and training is provided in the use and maintenance of PPE - All losses, defects and damage are reported <p>Considerations relating to work equipment under PUWER include</p> <ul style="list-style-type: none"> - Construction and design - Where it is going to be used - The purpose for which it will be used <p>LOLER applies to any equipment used in lifting and requires that:</p> <ul style="list-style-type: none"> - All lifting operations are properly managed - Lifting equipment is inspected and maintained to ensure it is safe to use - Equipment is fit for purpose - Equipment is regularly inspected to ensure it remains fit for purpose - Equipment is marked and any other information is provided to inform the user of the parameters of use for that piece of equipment - Equipment is uniquely identifiable and there is a differentiation between equipment for lifting people and rigging.

UNIT 1 – PRINCIPLES OF “THOROUGH EXAMINATION” OF ARBORICULTURAL EQUIPMENT (continued)

Assessment Activity	Assessment Criteria
<p>2. Demonstrate knowledge of the following terms in relation to the forces and limits incurred by arboricultural lifting equipment.</p> <p>Minimum Breaking Strength/Load (MBS/MBL)</p> <p>Working Load Limit (WLL)</p> <p>Safety factors/Safety Co-efficient (SF)</p> <p>Safe Working Load (SWL)</p>	<ul style="list-style-type: none">- Minimum Breaking Strength is the load above which an item may fail.- Working Load Limit is the maximum load that an item of lifting equipment is designed to raise, lower or suspend, not accounting for particular service conditions that may affect final rating of the equipment- Safety factor is the ratio between the Working Load Limit and Minimum Breaking Strength. The more an item is loaded beyond its SWL, the sooner it is likely to fail. This is accelerated by abrasive conditions.- Safe Working load is the maximum load (as certified by a competent person) that an item of equipment should be subjected to under particular service conditions. E.g. the SWL can be lower than the Working Load Limit (WLL).
<p>3. Demonstrate knowledge of the requirements of the “Competent Person” for the purposes of Thorough Examination of Arboricultural Equipment</p>	<ul style="list-style-type: none">- Theoretical knowledge of the type of material under inspection- Practical experience of the type of material under inspection- Can certify with confidence and competence that material under inspection is free from defect and totally suitable for the duty for which the material is required.- Can de-rate or retire equipment if appropriate
<p>4.1 Demonstrate knowledge of the different types of inspection of arboricultural equipment</p> <p>4.2 Demonstrate knowledge of inspection intervals</p>	<ul style="list-style-type: none">- Pre-use check, (before every use) by the operator- Thorough Examination- Inspection in between thorough examinations on items subject to rapid deterioration- The thorough examination should take place:<ul style="list-style-type: none">• Every 12 months for rigging equipment• Every 6 months for equipment for lifting people• This interval can be reduced if appropriate, by the LOLER examiner.• Exceptional circumstances such as shock loading

<p>5. Demonstrate knowledge of different systems using arboricultural climbing equipment</p>	<p>Fall Arrest Equipment</p> <ul style="list-style-type: none"> - Comprises an energy absorber attached to a full body harness by thoracic attachment. - Required when climbing above the anchor point - Intended to arrest a fall to stop a person from hitting the ground or other obstacles and is designed to limit the impact force of the fall and retain the user upright in the harness. <p>Work Positioning Equipment</p> <ul style="list-style-type: none"> - Comprises a harness with pelvic attachment, - Intended for use when climbing beneath anchor point with PPE in tension in such a way as to prevent a fall - Re-directs used to improve work positioning <p>Supplementary Anchors</p> <ul style="list-style-type: none"> - Additional support to prevent fall and or swing whilst working - Uses “adjustable lanyards”
<p>6. Demonstrate knowledge of the relationship between sling configuration and strength loss & reactive forces acting on anchor points.</p>	<p>Likely forces to be encountered on each component in a rigging system. (e.g. pulley, lowering device and slings).</p> <ul style="list-style-type: none"> - Pulley - up to 2x the load on the line - Lowering device - the same load as held on the line. <p>A stitched/spliced eye and eye sling will have the following strength ratings when used in different configurations:</p> <ul style="list-style-type: none"> - Basket hitch - increases lifting capacity of single leg configuration by at least 140% (provided the angle between the legs is 90° or less) - Choker hitch – reduces lifting capacity to 80% of single leg capacity.
<p>7. Demonstrate knowledge of the range of arboricultural equipment that requires “thorough examination”.</p>	<p>The LOLER Inspection covers the different types of:</p> <ul style="list-style-type: none"> - Harness - Rope - Connector (e.g. karabiner, snap, maillon rapide) - Pulley - Sling - Lowering Device - Ascender/descender or guided fall arrester - Lanyard (soft) - Pole Strop (wire core) - Friction saver - Prusik cord
<p>8. Demonstrate knowledge of the requirements for “traceability” of equipment</p>	<ul style="list-style-type: none"> - Date of purchase - Name of supplier - Evidence of conformity - Mark each item (on non load-bearing part) - Mark in clearly visible manner with any markings appropriate for reasons of health and safety

Assessment Activity	Assessment Criteria
9.1 Demonstrate knowledge of the different types of damage and defects that can affect metal items of equipment.	<ul style="list-style-type: none"> - Corrosion - Abrasion - Cracks - Deformation - Chemicals
9.2 Demonstrate knowledge of the different types of damage and defects that can affect textile items of equipment.	<ul style="list-style-type: none"> - Cuts - Abrasion - Burns/Melting - Age - Chemicals - Deformation - UV degradation
10. Demonstrate knowledge of the examination procedures for different types of equipment	<ul style="list-style-type: none"> - Identify the item to be inspected and inspection method suitable to type - Inspect item thoroughly - Try to expose hidden areas where appropriate - Pay particular attention to attachment points - Check moving parts for function and freedom of movement - Look for distortion, stiffness or residues - Smell or discoloration may indicate contamination - Use the log book/sheet to check on the history - Consider interaction with other items of equipment
11. Demonstrate knowledge of records required under LOLER for arboricultural equipment	<ul style="list-style-type: none"> - Purchase information - Date of issue - Suppliers certificates of conformity for the service life of the equipment - Interim inspection records - Record of thorough examination(s) - Manufacturers instructions should be available - Name/signature of inspector - Date of report - Particulars to identify each item of equipment - Safe Working Load - If equipment is safe to use - Identification of any defect <ul style="list-style-type: none"> • Particulars of any repair or remedial action taken or required - Latest date for next examination - Date of report - Any additional clarification required

UNIT 2 – “THOROUGH EXAMINATION” OF ARBORICULTURAL EQUIPMENT**Assessed by a 2 hour practical exam**

Assessment Activity	Assessment Criteria
1. Conduct a “Thorough Examination” of a range of arboricultural equipment provided by the assessor	<ul style="list-style-type: none">- Identify item to relevant inspection record- Check item and record for any indication of damage and/or wear- Check to see if damage has occurred- Evaluate whether damage identified is within acceptable limits- Pass as “Safe to Use” and record as such- Remedial action or reduced inspection interval- Fail as “Not Safe to Use”, remove from service and record as such
2. Record the results of the “thorough examination”, completing the appropriate records required by the Lifting Operations and Lifting Equipment Regulations (LOLER) 1998.	<ul style="list-style-type: none">- Notify employer forthwith of any defects which could become a danger to persons <p>Make a written and signed report of the “Thorough Examination” containing:</p> <ul style="list-style-type: none">- Name/signature of inspector- Date of report- Particulars to identify each item of equipment- Safe Working Load- If equipment is safe to use- Identification of any defect<ul style="list-style-type: none">• Particulars of any repair or remedial action taken or required- Any additional clarification required

Appendix 1 - Level 3 NPTC Certificate of Competence in the Thorough Examinations of Arboricultural Equipment (LOLER)

Test Specification - Unit 1 Principles of Thorough Examination of Arboricultural Equipment

Candidates must pass each of the four sections in order to pass the exam. The maximum time allowed is 1 1/2 hours

Activity	Group/ Assessment criteria	qu per test	Total qu per activity	Marks per activity	Pass mark per section	
Section 1						
01 Legislation	MHSWR 99/ The load/ Risk of load falling/ Risk of lifting equipment striking/ Risk of equipment failing	1	8	34	24/34	
	PPEWR 92/ State of repair/ Conformity/ Information and training/ Defects and damage of PPE	1				
	PUWER 98/ Construction and design/ Where it is to be used/ Purpose for use	1				
	LOLER 98/ Managed lifting operations/ Inspection and maintenance/ Equipment fit for purpose	1				
	LOLER 98/ Inspection of equipment/ Marking of equipment/ Differentiation of PPE and Rigging equipment	2				
	Minimum Breaking Strength or Load/ Working Load Limit	1				
	Safety Factors/ Safety Co-Efficient/ Safe Working Load	1				
Section 2						
03 Equipment for working at height	Fall arrest equipment/ Work positioning equipment/Supplementary anchors	1	3	10	15/21	
	Encountered forces during rigging/ Sling strength/ Sling configuration	2				
05 Categories of equipment	Applicable PPE equipment/ Applicable rigging equipment	1	1	5		
07 Levels of wear and damage	Damage and defects affecting metal	1	2	6		
	Damage and defects affecting textile	1				
Section 3						
02 Competent persons	Theoretical knowledge/ Practical experience	1	3	6	21/30	
	Material free from defects/ Suitability for duty	1				
	Derating/ retiring equipment	1				
04 Inspection requirements	Inspection types/ Pre use checks/ Interim inspection/ Thorough examination	1	3	9		
	Inspection intervals/ Exceptional circumstances	2				
06 Item marking and identification	Required records under LOLER/ Purchase information/ Date of issue/ Certificates of conformity/Interim inspection records	1	3	15		
	Marking of items/ Appropriate marking and identification	2				
Section 4						
08 Thorough examination	Examination procedures for specified equipment type	1	3	12	11/15	
	Name, signature of inspector/ Date/ ID of item/ SWL/ Equipment deemed safe or unsafe to use/ Identification of defects/ Latest date for next examination/ Date of report	2				
09 Management recommendations	Recording the results of thorough examination	2	2	3		
Total		28	28	100		