



**NPTC**

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**LEVEL 2**

**CERTIFICATE OF COMPETENCE**  
**IN**  
**FOREST MACHINE OPERATIONS**

**ASSESSMENT SCHEDULE**

**FMO 2.2 GRAPPLE PROCESSING OPERATION**

## NPTC

### LEVEL 2 CERTIFICATE OF COMPETENCE IN FOREST MACHINE OPERATIONS

#### FMO 2.2 GRAPPLE PROCESSING OPERATION

##### 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](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.

## FMO 2.2 GRAPPLE PROCESSING OPERATION

**Note:- This operation may be awarded as stand alone but must be combined with FMO 2.1, GRAPPLE FELLING, in order to satisfy the full criteria for Grapple Harvesting.**

### **Learning outcomes:**

The Candidates will:

1. Carry out pre-start checks and routine maintenance
2. Carry out a Risk Assessment and site appraisal
3. Operate a grapple-processor in a safe and effective manner
4. Drive the machine on a variety of terrains as available on site

### **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 forest machines used in the assessments must comply with relevant Arboriculture and Forestry Advisory Group (AFAG) Safety Guides 501 and 603
4. Candidates should be familiar with the machine that they are going to operate.
5. Appropriate Personal Protective Equipment (PPE) must be worn at all times.
6. A First Aid kit meeting current regulations, of the appropriate size for the number of persons on site, must be available.
7. The candidate must be equipped with a personal first aid kit.
8. 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.
9. Any necessary permissions must have been granted, and notifications made as appropriate: (e.g. Forestry Commission, Forest Enterprise, Private owners etc).
10. All equipment being used for this assessment must comply with relevant requirements of the Provision and Use of Work Equipment Regulations (PUWER) 1998 and Lifting Operations and Lifting Equipment Regulations (LOLER) 1998.
11. Information may be sought from the relevant operator manuals or any other appropriate training or safety publication.
12. The current Regulations for transport, handling and storage of fuel and oils must be complied with.
13. Provision must be made to avoid the risk of environmental pollution.
14. 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.
15. Whenever the Candidate leaves the leaves the operators cab, the grapple head must be safely parked and the parking brake must be applied.
16. When the machine is parked and left unattended, it must be immobilised and all doors secured.
17. The machine must be operated in such a way that the Candidate, Assessor, other persons or equipment are not endangered.
18. All ancillary equipment, when detached must be safely parked.
19. Candidates must comply with current regulations when working at heights of greater than 2 metres.
20. The assessment is carried out in accordance with the safety guidelines laid down in Arboriculture and Forestry Advisory Group (AFAG) Safety Guides, Health and Safety publications and current legal requirements.

### **Validation of Equipment:**

Any Grapple Processor complying with legal requirements is acceptable for the test, provided it is suitably equipped for **all** test items to be carried out.

<b>Assessment Activity</b>	<b>Assessment Criteria:</b>
<p><b>PREPARATION</b></p> <p>1. Demonstrate knowledge of legal requirements and safety regulations</p>	<ul style="list-style-type: none"> <li>- Awareness of any safety implications imposed by risk assessment on the machine and the operation</li> <li>- Awareness of FASTCo guides and the relevance of their contents to the machine and the operation</li> <li>- Awareness of statutory regulations when transporting on a public highway</li> <li>- Lifting operation and lifting equipment regulations (LOLER)</li> <li>- Provisional use of work equipment regulations (PUWER)</li> </ul>
<p>2. Answer questions on safety and on safety regulations which concern both the driver and affect any person in the vicinity of the machine</p>	<ul style="list-style-type: none"> <li>- All risk zones clearly and prominently marked externally and internally</li> <li>- Maximum machine height</li> <li>- Warning/prohibition signs erected</li> <li>- Barrier tape put up</li> <li>- Extra Manning considered</li> <li>- Steel Towers - 15m</li> <li>- Wooden poles - 9m</li> </ul>
<p>3. Demonstrate knowledge of requirements to safeguard the environment</p>	<p>Awareness of statutory requirements under control of pollution:</p> <ul style="list-style-type: none"> <li>- Fuel spillage/storage</li> <li>- Erosion</li> <li>- Oil/leakages</li> <li>- Time of year</li> <li>- Water contamination</li> </ul>
<p>4. Carry out daily/weekly maintenance, settings and pre-start checks.</p>	<p>Check the following for fault, damage, cleanliness, adequate levels, tension, functioning etc.(if applicable):</p> <ul style="list-style-type: none"> <li>- Stroke de-limber</li> <li>- Feed rollers, tyres, chains and track drive</li> <li>- Saw chain</li> <li>- De-limbing knives</li> <li>- Saw lubricant</li> <li>- Hydraulic hoses</li> <li>- Oil leaks</li> <li>- Loader cracks</li> <li>- Chassis cracks</li> <li>- Loose or broken bolts</li> </ul> <p>- All safety requirements are met</p>
<p>5. Demonstrate knowledge of safe working limits</p>	<ul style="list-style-type: none"> <li>- Manufacturers instruction book</li> <li>- Maximum de-limbing diameters</li> <li>- Machine handling limits</li> <li>- Stability of machine</li> <li>- Species of tree</li> </ul>

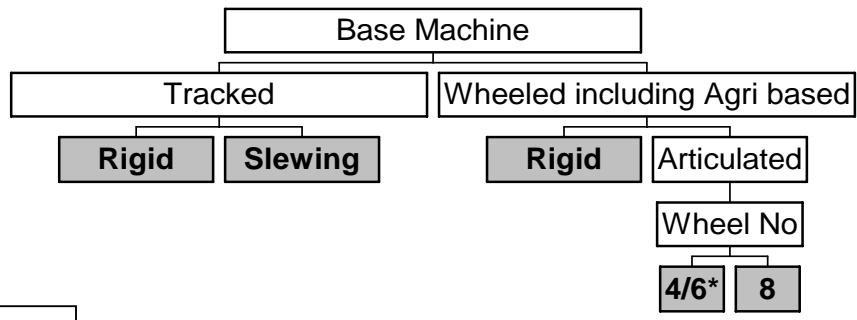
<b>Assessment Activity</b>		<b>Assessment Criteria:</b>
<b>OPERATION</b>		
6.	Ensure a safe working system is implemented to protect operator motor manual cutters and others on site	<ul style="list-style-type: none"> <li>- Working distance</li> <li>- Awareness of possibility of stem and other material movement</li> <li>- All work ceased if zone is entered</li> <li>- Elevated equipment lowered</li> <li>- Overhead hazards</li> </ul>
7.	Delimb and process a minimum of 10 felled trees	<ul style="list-style-type: none"> <li>- Correct positioning of machine</li> <li>- Awareness of the possibility of stem and other material movement</li> <li>- Grips tree correctly</li> <li>- Zeros measurement at butt</li> <li>- Delimbs efficiently to the given specification</li> <li>- Confirms log length</li> <li>- Positions and saws log correctly</li> <li>- Continues logs</li> <li>- Changes to pulp</li> <li>- Checks lengths and diameter after processor is stopped</li> <li>- Ensure that an effective brush mat is constructed to specification</li> </ul>
8.	Demonstrate knowledge of processing forked and mis-shapen trees	<ul style="list-style-type: none"> <li>- Machine capability</li> <li>- Maximise value of tree</li> </ul> <p>Alternative methods:</p> <ul style="list-style-type: none"> <li>- Motor manual</li> <li>- Chipping</li> </ul>
9.	Crosscut and stack at least 10 trees efficiently to specification	<ul style="list-style-type: none"> <li>- Stack produce clear of brush.</li> <li>- Stack produce clear of drains (across is acceptable)</li> <li>- Grades logs</li> <li>- Segregates products effectively</li> <li>- Accumulate same products for extraction</li> <li>- Mark products.(if appropriate)</li> <li>- Industry-recognised guidelines are followed</li> <li>- Maximise value of tree</li> </ul>
10.	Take down of hung-up tree	<ul style="list-style-type: none"> <li>- Correct positioning of machine</li> <li>- Grips tree correctly</li> <li>- Take down tree in controlled manner</li> <li>- Suitable position for further processing</li> <li>- Awareness of effects on machine stability</li> </ul>

When using equipment fitted with computer control systems the Candidate must satisfy the Assessor in the items listed below in order to demonstrate a full working knowledge of the system and the affect that any malfunction would have on the safety of the operation, equipment and process.

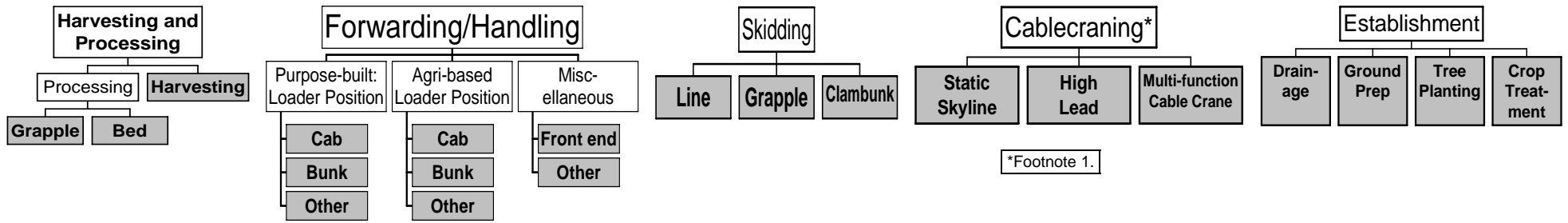
11.	Check function of computer control system	<ul style="list-style-type: none"> <li>- Ensure consistency of inputs to computer control system with actual parameters</li> <li>- Recognise malfunctions before and during operation</li> <li>- Conduct regular check during application operations</li> <li>- Switch to "test mode" where applicable</li> </ul>
12.	Demonstrate knowledge of operation of computer control system	<ul style="list-style-type: none"> <li>- Working knowledge of and the associated functions of the control panel</li> </ul>
13.	Demonstrate knowledge of action to be taken in the event of failure of computer control system in order to maintain safety	<ul style="list-style-type: none"> <li>- Stop harvesting operation</li> <li>- Convert to manual operation</li> </ul>
14.	Programme a computer (if applicable)	<ul style="list-style-type: none"> <li>- Switch on computer taking relevant precautions</li> <li>- Select log 1</li> <li>- Programme log length and tolerances</li> <li>- Programme minimum top diameter</li> <li>- Select log 2</li> <li>- Programme log length and tolerances</li> <li>- Programme minimum top diameter</li> <li>- Select pulp 1</li> <li>- Programme length and tolerances</li> <li>- Programme minimum top diameter</li> <li>- Select pulp 2</li> <li>- Programme length and tolerances</li> <li>- Programme minimum top diameter</li> <li>- Calibrate computer</li> <li>- Confirm information is retained</li> <li>- Switch off computer</li> </ul>
15.	Interrogate a computer (if applicable)	<ul style="list-style-type: none"> <li>- Retrieve information</li> <li>- Check programmed sizes</li> <li>- Check number of pieces e.g. How many log 1's, and how many pieces of pulp 2</li> <li>- Check how many trees</li> <li>- Check volume of pieces by sizes e.g. How much volume of log 2</li> <li>- Check volume of trees</li> <li>- Obtain printout</li> <li>- Record information and clear memory</li> </ul>

## Base Machine and Operation Categories Qualification Structure

Machine category



Operation category



- Footnotes**
1. The chokerperson is assessed as part of the team and the certificate endorsed accordingly if they do not operate the winch.
  2. The proposed classification does not intend to preclude older or improved technologies.
  3. There will be a time-limited post-training provisional licence system.
  4. If wheels are fitted with tracks, the machine is still to be regarded as a wheeled machine.

\*Footnote 1.