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LEVEL 2 CERTIFICATE OF COMPETENCE IN MANUALLY FED WOODCHIPPER OPERATIONS

ASSESSMENT SCHEDULE

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Candidate Information

Introduction

The scheme will be 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

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.

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 approved 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 instructor 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 result of the assessment will be recorded on the assessment report form.

The schedule of assessment contains the criteria relating to:

- Observation of practical performance
- Assessment of underpinning knowledge

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)

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 regular 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 an NPTC approved verifier.

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 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 and Complaints and Appeals Procedures, please refer to www.nptc.org.uk

Learning Outcomes

- The candidate will be able to:
- 1. Identify, inspect and comment on key parts of the machine
- 2. Prepare the machine for work safely without risk to themselves, other people or the environment
- 3. Carry out daily and routine maintenance on the machine
- 4. Operate the machine safely and competently without risk to themselves, others and the environment
- 5. Follow the correct procedure to adjust chip size
- 6. Deal with blockages
- 7. Maintain cutting systems as per manufacturers instructions
- 8. Prepare the machine for transportation

Guidance Notes for Candidates and Assessors

The assessment is divided in to 3 compulsory units:

- 1. Inspect and maintain the Wood chipper
- 2. Prepare the Wood chipper for operation
- 3. Operate the Wood chipper

Candidates must successfully achieve all assessment activities in all three units.

Safe Practice

The Assessment is carried out in accordance with the safety guidelines laid down in AFAG Safety Guides 604, 801, 804, AIS 38 and any other relevant Health and Safety Executive publications and current legal requirements.

Appropriate Personal Protective Equipment (PPE) must be worn at all times.

Any equipment used must be operated in such a way that the Candidate, Assessor, other persons, equipment or the environment are not endangered or harmed.

Failure to operate safely and comply with these requirements will result in the Candidate not meeting the required standard.

Validation of Equipment

A Manufacturer's instruction book or other operators' manual should be available.

All equipment being used for this assessment must comply with the relevant requirements of the Provision and Use of Work Equipment Regulations (PUWER) 1998.

Any appropriate **manually fed** wood chipper (tractor mounted, trailed, tracked or fixed (e.g. sawmill machine), complying with current legal requirements is acceptable for the assessment, provided it is suitably equipped for **all** assessment activities to be carried out.

Crane / grapple fed wood chippers are **not** included in this Assessment: These would be included as part of the Forest Machinery Operations Certification, following certification for Manually Fed Wood chipper Operations

The chipping mechanism can be of any type (flywheel, drum or spiral) with or without feed rollers

All powered roller-fed machines used for assessment <u>must</u> have an appropriate safety roller feed cut-off bar, in accordance with the Health and Safety Executive Agriculture Leaflet No. 38 "Power-fed mobile wood chippers".

Any other forms of operator protection safety devices fitted by the manufacturers, or retro-fitted, must be working correctly.

Candidates who undertake this assessment and are judged 'competent' are reminded of their legal obligation to receive/undertake appropriate additional training in the use of any equipment that differs from that used during the assessment, but which they are nevertheless qualified to use

Additional Information

This may be sought from the relevant manufacturer's instruction book, operators' manual or any other appropriate training or safety publication.

Operators do not need to have passed a driving test / trailer test for towing vehicles or achieved FMO / MO certification for tractor use in order to operate the wood chipper but must not drive a vehicle or tractor in this circumstance. Operators of tracked wood chippers must have received appropriate training in controlling a tracked machine.

To ensure prevention of environmental pollution from oils, fuel etc., the assessor must have available a suitable spill kit (plus shovel etc. as appropriate).

Woodchip must be disposed of / placed in such a way as not to create environmental damage, hazard or nuisance.

The assessor should carry a range of tools for the operator maintenance tasks to be carried out and a portable fire extinguisher

Suitable Site

The assessment must take place on a suitable site that contains a supply of arisings suitable for chipping. Adequate cover should be available for operator maintenance in the case of inclement weather.

Suitable materials

1. Brash / brushwood / branch material, 2. short round-wood of diameter up to in-feed capacity of chipper and 3. long round-wood must be available of sufficient quantity to enable candidate to feed a variety of sizes & lengths of each of the 3 categories

Candidates Name:	Date:	Start Time:	Duration:	hrs
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Unit 1 Inspect and Maintain the Wood Chipper		
Assessment activities	Assessment criteria:	
 Demonstrate knowledge of information relevant to managing risks to health and safety in the workplace 	Generic Risk Assessment must have the following included: - Sites - Tasks - Machines The risk assessment must be communicated to all personnel Emergency Procedure information must be provided	
2. Demonstrate knowledge of Emergency Procedures planning 3. Identify and waar appropriate cafety elething and protective	Emergency Planning information should include: - OS map Grid Reference - Location name - Designated meeting place - Nearest main road junction - Nearest accident and emergency hospital & phone number - Type of access (Public road, 4x4 vehicles etc) - Suitable air ambulance landing area - Own contact telephone number	
 Identity and wear appropriate safety clothing and protective equipment needed for preparation and use of the wood chipper 	 PPE should include: Safety boots Non-snag clothing Ear protection Eye protection Suitable gloves Safety helmet Other PPE as highlighted by the Risk Assessment 	
Demonstrate knowledge of the criteria for choosing Personal Protective Equipment	 PPE should be: in accordance with current best practice guidance (e.g. AFAG guide) Marked with an EN number Within date limits and undamaged Maintained / cleaned / stored correctly 	
4. Demonstrate knowledge of unloading/ loading or unhitching / hitching the wood chipper from its transporter	 For tracked machines: releasing / securing tie-down straps (etc) ramps set safely and correct angle Trailer stabilisers are set Machine driven slowly and in correct direction for machine type For trailed machines: towing vehicle positioned, parked and secured safely brakes/ chocks set jockey wheel/ stand, releasing hitch set safely For three point linkage-mounted machines: vehicle / tractor and wood chipper positioned and secured link arms, top link and stabilisers safely and correctly set P.T.O. shaft and guards correctly set tractor and wood chipper checked for obstructions to lifting both on machine and surroundings 	
 Demonstrate knowledge of guarding requirements for the wood chipper being used 	 All moving or hot parts must be guarded Guards must be replaced following maintenance Guards must not be permanently removed or tampered with 	

Unit 1 – Inspect and maintain the Wood chipper (continued)		
Assessment activities	Assessment criteria:	
6. Inspect chipper and report on general serviceability	 safety features identified e.g. roller feed safety trip bar warning / information symbols identified and interpreted In-feed and discharge chutes secured Machine safety guards secured Controls identified and checked for function and direction of operation Brakes, chocks, stabilisers and other security devices checked 	
7. Check function of safety devices	 Stop switch / cut-out device(s) working Roller feed safety trip bar and reset function are working correctly Other operator protection devices function correctly 	
 Demonstrate knowledge of different types of cutting mechanism 	 Flywheel and fixed blades / knives Flywheel and adjustable blade / knives Drum and swinging blades / knives Drum and fixed blades / knives Reversible blades / knives Segmented blades / knives Spiral, self feeding blades / knives Circular knives / blades 	
 Demonstrate knowledge of causes of damage and consequences of poorly maintained blades / knives etc. 	Possible causes of damage include: - Anvil /counter-knife & blade / knife contact - Loose mountings / bolts / nuts - Over-tightened bolts / nuts - Soil damage - Damage from metal / stone / hard objects Possible consequences of poorly maintained blades/ knives could include: - Machine not working efficiently - Cutting mechanism overheats/ warps - Increased likelihood of jamming	
10. Check and comment on the cutting mechanism	 Checks made in accordance with manufacturers handbook Blades / knives and anvil / counter-knife are secure Condition of blades / knives and anvil / counter-knife (etc.) checked for wear or damage Blade / Anvil clearance correct Integrity of flywheel, drum, bearings, paddles etc. checked (as appropriate to machine) Bearings in good order Mechanism free of debris, string, wire etc 	
11. Demonstrate knowledge of maintenance of the cutting system	 Ensure that machine is made safe Wear appropriate PPE Debris around blades removed Remove knives / blades as appropriate Replace, set & secure sharp, balanced set with correct torque settings Set & secure anvil / counter knife Check clearances are correct Hazards and results of incorrect fitting and clearance of the blades / anvil commented on Characteristics required of new or sharpened replacement blades commented on (Balanced etc.) 	
12. Check and comment on the engine / power source	 Oil level sufficient Condition of air filter inspected and cleaned Cooling system inspected & cleaned & coolant level checked (if appropriate) Fuel system, starting and charging systems inspected and commented on Electrical system checked for damage 	
13. Check and comment on the drive system	 Condition of, pulleys, clutches, shafts etc. inspected depending on style of machine drive belts in good condition and tensioned correctly (if fitted) 	

Unit 1 – Inspect and maintain the Wood chipper (continued)		
Assessment activities	Assessment criteria:	
14. Check and comment on hydraulic feeding mechanism (if fitted)	 Hydraulic system checked for leaks or damage (hoses, pump, motors, spool valves, filters etc.) Linkages, pivots, springs etc. inspected and lubricated Feed rollers in safe condition Safety trip bar and reset mechanism in safe condition Stress control components intact and free of debris / dirt Hydraulic oil level correct 	
15. Carry out daily maintenance	 Maintenance tasks carried out as outlined in manufacturer's or operators instruction book, including; Machine external and internal components cleaned to remove dirt and debris Grease gun, oil can etc. used appropriately Fuel, oils and coolant (etc.) topped up as appropriate Safeguards to environmental pollution employed 	

Unit 2 Prepare the wood chipper for operation		
	Assessment activities	Assessment criteria:
1.	Demonstrate knowledge of the factors to consider when working adjacent to highways	 Wear high visibility clothing Warning signs deployed in accordance with Department of Transport requirements Exclusion zone / barriers set up to protect both operators and public Position machine safely Discharge chips safely Ensure constant awareness of traffic
2.	Check site for hazards	 Walk the site and remove or mark hazards Confirm that the condition of the site as acceptable for the operation to take place Report to the appropriate person if the site condition is unsuitable
3.	Set out warning signs and barriers	 Erect signs as appropriate advising the public & other workers of hazards Erect barriers where necessary to exclude the public, other workers and animals Implement suitable controls to protect the operators on roads, paths & tracks
4.	Demonstrate knowledge of what is involved in carrying out a Site Specific Risk Assessment and demonstrate knowledge of the process	 Risk Assessment must: Identify significant hazards Evaluate the risks and to whom Indicate control measures required Be written down Be communicated to all other operators and reviewed / monitored
5.	Demonstrate knowledge of the method to produce different sized chips	 Alternative methods could include: Remove, replace and set knives with shims as appropriate according to manufacturers instructions Alter blade protrusion with adjusting bolts and reset anvil Alter roller feed speed

Unit 2 Prepare the wood chipper for operation (continued)			
Assessment activities	Assessment criteria:		
6. Manoeuvre wood chipper to work position	 Machine moved to work position in safe manner: awareness of slopes and obstacles on the ground awareness of overhead obstacles including power lines use of banksman if required when reversing / moving wood chipper where visibility impaired machine moved at safe speed appropriate use of operator controls for self propelled machines appropriate use of hitching attachment/ three point link when manoeuvring a tractor-mounted machine appropriate control of trailed wood chipper when manoeuvring on site extreme care when negotiating slopes and obstacles 		
Demonstrate knowledge of safety considerations when moving a wood chipper	factors to consider: visibility when reversing / turning machines have high centre of gravity therefore tendency to tip over avoid moving machine across slopes chocking of wheels on slopes		
Demonstrate knowledge of additional safety considerations when moving a tracked wood chipper 7. Check wood chipper is in stable condition prior to operation	 factors to consider: avoid turning on slopes / ramps with tracked machine operator must be on upper side when ascending or descending slopes extreme care when climbing over an obstacle (e.g. roots, holes, steps) or change of angle at top of ramp as machine can rear up / slew violently hydraulic fluid must be warm before negotiating uphill slope ensure ramps / bridging to support weight of machine are strong enough chock under tracks if stopped on a steep slope For trailed wood chippers: jockey wheel lowered or hitch attachment on vehicle secure brakes, chocks, stabiliser(s) applied as appropriate turn-table (if fitted) is locked in position For 3-point linkage machines: attachment of lift arms, top link and stabilisers is secure machine is correctly aligned engagement of PTO shaft or other drive mechanisms is secure and safe all PTO guards are secure and in good condition For tracked wood chippers: tracks, rollers, sprockets etc are in safe condition and tensioned / aligned correctly hydraulic levelling / widening is employed as appropriate (if fitted) 		
8. Position wood chipper chute in operating condition	 Check that, prior to operation: Feed hopper and discharge chute are correctly set Machine is stable Machine is at an appropriate distance away from electric and other cables Area around feed hopper and discharge chute are not obstructed 		
9. Start the machine and carry out safety checks.	 Safe starting zone selected All bystanders at an appropriate safety distance Visual pre start checks carried out Wood chipper started in accordance with manufacturers recommendations Throttle control adjusted to achieve full working speed Operator protection and restart mechanism checked for correct operation (if fitted) Emergency stop control checked for effectiveness Roller speed control is adjusted correctly (if applicable) Wood chipper stopped safely and correctly, key removed Procedures used for dealing with faults which cannot be rectified 		

Unit 2 – Prepare the wood chipper for operation (continued)		
	Assessment activities	Assessment criteria:
10.	Demonstrate knowledge of problems with noise from the machine and how to reduce the effect	 Possible hazards include: Noise pollution into the environment Noise hazard to other workers Noise hazard to operators Possible control measures: Avoid operation in enclosed spaces All operators wear suitable ear protection Rotate work with other workers or other operations Avoid working in front of in-feed chute Have an adequate exclusion zone for bystanders
11.	Demonstrate knowledge of "reasonable precautions" necessary when working in areas to which the public may have access	 Appropriate precautions that can be made to protect the operator and public: Authorities informed about work Warning signs erected High visibility clothing worn "Exclusion zone" set up Banks-man / lookout posted

Un	Unit 3 – Operate the Wood chipper		
	Assessment activities	Assessment criteria:	
1.	Demonstrate knowledge of personal safety precautions to be taken when manually handling machinery, equipment, timber or arisings	 For safe lifting and handling: Avoid manual handling where possible Use mechanical aids Use safe lifting techniques (bend knees and keep back straight) Prepare material to reduce length &/or weight 	
2.	Prepare material for chipping	 Material for chipping stacked appropriately Timber (etc.) free from foreign objects Hazardous materials not to be chipped identified 	
3.	Demonstrate knowledge of the hazards from timber to be avoided by the operator at the in-feed chute	 Dead and / or brittle material can shatter and pieces can hit operator Bent material can move violently and injure the operator 'spraggy' material can catch on clothing and drag operator or cause physical damage to operator timber can shatter inside the chip compartment and be flung out of the in-feed chute at high speed 	
4.	Demonstrate knowledge of hazardous material to be chipped and the controls needed to reduce risk	 Hazardous material that requires particular PPE: Dry / fungus infested material produces dust; breathing and eye protection may be required Thorny material can cause injury; additional hand, arm and face protection may be required toxic material such as saps; additional face, arm, hand and breathing protection may be required contamination by other harmful material e.g. sewage / waste; face, body and breathing protection may be required 	
5.	 Operate machine to chip brushwood / light branch wood long round wood short round wood up to diameter capacity of the chipper 	 Ensure that: Safe procedures are observed throughout operation Timber feeding area is clear of other persons Engine speed set to obtain optimum output Stress control is set if applicable Safe manual handling procedures are used to lift and feed material into chipper Operator is to one side of in-feed chute No part of the body enters the in-feed chute Push stick is used as appropriate Discharge area checked during operations Assistant (if present) is in a safe position and employed appropriately 	
6.	Stop machine safely	 Implement procedure as per manufacturer's or operators instruction book Remove key and place in pocket No further working on machine until all moving parts stationery 	

Unit 3 – Operate the Wood chipper (continued)		
Assessment activities	Assessment criteria:	
7. Demonstrate knowledge of clearing machine blockages	 Stop machine using "safe stop" procedures Ensure safe operating methods to gain access to blockage Check and clear: Feed hopper Discharge chute 	
8. Convert to transport position	 Isolate power source as per manufacturer's recommendations Secure in-feed and out-feed chutes for transport Raise stabilisers, lock turntable etc. as appropriate to machine 	
 Demonstrate knowledge of factors to consider when cleaning the wood chipper and reasons for cleaning 	 Wood chipper is cleaned to: Prevent corrosion Facilitate maintenance & adjustments Prevent hazardous operating conditions (e.g. fire) Prevent soiling of roads Identify PPE to be used Remove any unwanted residues safely using appropriate method: Blower Compressed air Water Brush Dispose of waste material according to company policy and legislation 	
 Demonstrate knowledge of the need to inspect the wood chipper after use 	 Wood chipper inspected to establish any wear, damaged and/or missing components through use Ensures any defects can be rectified before it is next used Other operators / supervisor etc. can be informed through a reporting procedure that defects are present 	
11. Demonstrate knowledge of the environmental and public hazard considerations when discharging or storing woodchips	 Fire hazard in chip stacks Toxic Run-off hazard from chip stacks Physical hazard to public and others from unstable chip stacks Hazard to road users from unstable chip stacks Risk of blocking drains, watercourses etc from inappropriate discharge / chip stacks Hazard to wildlife, plants and trees from inappropriate discharge / chip stacks Hazard to property (e.g. fences) from inappropriate discharge / chip stacks 	
12. Demonstrate knowledge of the end-uses of chips and the different qualities of product required	Lowest quality would include e.g. brash and leaves Highest quality would include chip from round-wood to a given size specification Examples would include: - Chip to waste – low quality material - Chip for mulch – low quality material - Chip for fuel (small scale) – high quality consistent quality required - Chip for fuel (larger scale) – lesser quality & consistency required - Chip for play-parks/ horse ménage / paths etc. – high quality material required	
13. Chips moved in safe and effective manner	 Transport bin / hopper etc. is in safe position on vehicle / trailer etc. and not over-filled Chips are raked / shovelled etc. using correct manual handling techniques 	
Site checked and tidied when job is completed	 Retrieve signs and barriers Ensure no debris is left to create a hazard or be unsightly Chips are not piled against trees, fences, etc Chips are not encroaching wildlife habitats Ensure chips are not contaminating ditches, waterways etc Chips are not likely to wash / fall onto roads, paths etc. Any ground damage is rectified Material not chipped is disposed of correctly 	