City & Guilds NPTC Level 2 Award in Forest Machine Operations – Base Machine (0020-30)

Version 1.1 (March 2025)

Assessment Pack – Centre and Candidate Version

Version and date	Change detail	Section
1.0 March 2024	First version	All
1.1 March 2025	Formatting changes	Throughout

Contents

Introduction

This assessment relates to the unit in the Qualification handbook. The assessment can be achieved at pass only. If any task is not yet met the candidate is unsuccessful.

This assessment is for unit 208 Prepare and operate a base machine covering the following learning outcomes:

1. Be able to work safely
2. Be able to prepare and drive the machine
3. Know how to prepare and drive machine
4. Know relevant health and safety legislation and industry good practice

General guidance on the requirements for assessment can be found in the Assessor Guidance General guidance on the requirements for assessment can be found in the Assessor Guidance document available on the City & Guilds web site **www.nptc.org.uk**

The assessor must complete the Practical Table mark sheet for each candidate which should be kept by the assessor for a minimum period of twelve months.

Record of assessment (ROA)
A prepopulated record of assessment must be completed by the assessor following an assessment. The number of outcomes is listed above, these must be ticked into the relevant met or not met sections of the ROA.

ARAS Forms
An Assessment Result Advice Slip (ARAS form) must be completed by the assessor following an assessment. The ARAS is not a certificate but, based on the evidence of the candidate's performance, is a recommendation to City & Guilds that the candidate is either met or not met the assessment criteria. All feedback is to be recorded by the assessor on the feedback section of the ARAS form.

Assessment Time
The expected assessment time for this qualification is 1.5 – 3 hours.

Site/workshop requirements:
Two loads of timber for loading and unloading on to a loading bay

Equipment/Machinery:
Maintenance tools for the machine being used.

Consumables:
Fuels and oils, grease and workshop gloves.

This is not an open book assessment; however additional technical information may be sought from the relevant manufacturer's operator manuals or any other appropriate training or safety publication.

Practical observation descriptor table

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Activity number and description from check list		Assessment criteria
1.1	Identify the hazards and risks associated with the working area, the proposed work and the machine	Identify hazards (anything with the potential to cause harm) and risks (who might be harmed), relevant to: The work area/work to be done Hazards • power lines • terrain • access routes • chain shot • risk zones • struck by timber • other Risks • operator • others on site • public • other machine operators • other The machine Hazards • struck by machine • access and egress • moving parts • hot surfaces • working at heights • high pressure fluids • other Risks • public • operator • environment • other
1.2	Use appropriate tools, equipment and personal protective equipment (PPE)	• All tools, equipment and Personal Protective Equipment are used in line with industry good practice e.g. AFAG/HSE. • During all on site operations PPE in accordance with industry good practice must be worn. Personal Protective Equipment identified could include: • safety helmet (if required) • hearing protection (where needed) • suitable protective gloves • protective boots

		• non snag outer clothing • high visibility clothing where risk assessment identifies it • hand cleaning materials • first aid kit • other
1.3	Work in a way which maintains health and safety and is consistent with relevant legislation and industry best practice	• All activities must be completed in a way which protects the operator and those around them.
1.4	Carry out work to minimizes environmental damage	• It is ensured that any possible environmental damage is minimised at all times during on site operations.
2.1	Carry out pre and post start checks of the machine consistent with environmental best practice and manufacturers recommendations	Pre and post start checks on machine according to the operator's handbook and to include: • machine on level ground • ensure machine services in neutral and lowered where applicable • engine stopped and key removed • check engine oil, transmission/hydraulic oil, coolant and fuel level, engine air filter • importance of cleanliness • seat, steering mechanism and mirror adjustment • operator seat restraint is functional (where applicable) • check operator protection systems • check relevant access and egress points • radiators (coolant and hydraulic) • fuel filters and/or water trap • grease where and when appropriate Chassis/ Frame • cracks • pin security • bushes • cylinders • attachment • loose or broken bolts • cables and connections • guarding Hydraulic hoses • leaks • cracks • cuts • abrasions • security • guarding Either Wheeled

		• tyre suitably inflated • tyre condition • check wheel nuts OR Tracked • track drive train condition and maintenance are checked • pins (if applicable) • sprocket • idler • track plates/pads (if applicable) • tension criteria Environmental considerations: • disposal • storage of oils on site • spill kit mats used
2.2	Carry out safe access and egress	Candidates must demonstrate safe access and egress from machine using the hand and foot holds provided and facing into the cab (3 points of contact)
2.3	Carry out the operation on site in a safe, effective and efficient way	Start engine: • isolator switch engaged • parking brake applied • gears in neutral • clutch pedal depressed (if applicable) • PTO disengaged (if applicable) • hydraulic services in neutral (if applicable) • start Candidate to drive machine: • safe access • start in accordance with manufacturers recommendations • appropriate gear selection • smoothness of take off • drive in a straight line • left and right turn • reverse (if applicable) • appropriate speed for conditions • appropriate use of brakes • safe position on site chosen • controls and attachments in neutral and lowered to the ground • parking brake applied and effective • safe egress Stop engine • allow engine to idle • lower and disengage hydraulic services and PTO • gears in neutral and parking brake applied • shut down electrical services/computer

		• disengage ignition and remove key • disengage and remove isolator switch
3.1	State the safety requirements and routine checks required for the machine	Level ground • all fluid levels can be accurately checked • other Machine Services • security • unauthorised third party operation • other Cleanliness • personal contamination • system contamination • other Adjustment • ergonomics • visibility • other Restraint systems • personal safety • HSE requirement • other Operator protection systems • roll over protective structure (ROPS) • falling object protective structure FOPS) • operator protection structure (OPS) • other Access and Egress • operator safety • PUWER • other Either Wheeled • Tyre pressure and ballast • tyre dealers' recommendations • operator's handbook • stability • traction aids • band tracks of chains • other Wheel nuts • visually • torque wrench • operator's handbook OR Tracked Track Drive Train

		• track will come off • track will break • lack of traction • premature wear • long term damage • other Tension criteria • according to manufacturer's recommendations • other
3.2	Explain the function of all controls and how to interpret instrument readings	Refer to operator's manual The function and setting of the following controls: • starting devices, including cold start • engine speed control • stop control • check function of emergency stop • gear selection • clutch • differential lock (where applicable) • PTO lever engagement and speed range selector (where applicable) • brakes (independent and parking) and remote braking device if fitted • hydraulic controls • draft control (as applicable) • position control (as applicable) • other controls provided • external services • lights, direction indicators, horn, screen wash/wipe, heating and ventilation controls and any safety warning device (where applicable) Instruments inside the cab • tractormeter and associated chart (if applicable) • oil pressure gauge (or warning light) • battery condition indicator or warning light • other warning lights (as applicable) • reversing aid (if applicable) Action in event of warning light • refer to operator's manual Maintain/check firefighting system • firefighting system(s) tested (if fitted) • fire extinguishers maintained, checked and in date • access and egress points in the event of an emergency

3.3	State the factors that may cause the cooling system to overheat	Factors that may cause the cooling system to overheat may include: • fan belt slack • radiator core blocked • radiator fins blocked • faulty thermostat • cylinder fins spaces blocked (air cooled only) • low fluid levels • other
3.4	Describe how to check the battery(s) and report on the condition	Clean battery terminals • use of hot water • other Battery could explode due to: • excessive charge rate • charger not switched off before connection or disconnection while on charge • sparks near gas outlet • involuntary earthing of the battery • incorrect fitting of jump leads from machine to machine or power pack • other Battery condition may include: • battery is secured • leads connected and checked for damage • terminals cleaned satisfactorily • anti-corrosion grease put on leads and terminals when reconnecting • bolts are tight but not over-tightened • other
3.5	Explain the safe procedure to follow for detecting leaks in high pressure hydraulic systems	Safe procedure for detection may include: • hands not used for detection of leak • use a piece of card or paper • other
3.6	Explain the procedure to follow when replacing a hydraulic hose	According to the operator's manual and to include: • appropriate PPE identified • use of spill kit • hydraulic system lowered and pressure • relieved • importance of cleanliness • vacuum pump (if fitted) • shut off valve (if fitted) Tools: • spanners x 2 Criteria for hose replacement

		• pressure rating • length • end fittings • bore Factors when fitting new hose • referred to operator's manual • new hose fitted ensuring inside of hose and joints are clean • correctly routed not twisted • switch off vacuum pump (if fitted) • open valve (if fitted) • hydraulic oil topped up and checked as required • start machine • operate function • check for leaks • clean up spill kit • re-check oil level Environmental considerations • bagged and labelled • licensed disposal • recycle • other
3.7	Describe safe driving techniques that should be used on site	The dangers of driving at high speed • stability • stopping distance • other The benefits of wide wheel track settings • stability • other Up and down hill • straight • load distribution Across a slope • avoid if possible • direction of turn up hill (rigid), downhill • (articulated), tracked machine (specific) • weight distribution • route construction • avoid obstacles Over rough ground • speed • stability • weight distribution When driving with heavily loaded trailers and implements • speed

		• stability • weight distribution • route planning Change of centre of gravity when turning • stability
4.1	Outline key health and safety legislation and industry good practice	Outline key points from the legislation listed below: Health and Safety at Work Act (HSWA) (1974) – • general duties for employers and employees • maintain safe places of work • other Provision and Use of Work Equipment Regulations 1998 (PUWER 98) – • record keeping • operators adequately trained • equipment fit for purpose • other Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR) • reporting of accidents • reporting of dangerous occurrences • other Working at Heights • adequate precautions taken for safe working procedures • any height constitutes working at heights • other Control of Substances Hazardous to Health (COSHH) Regulations (2002) • correct PPE to be identified • correct storage and application • disposal • other Industry Good Practice • Arboriculture Forestry Advisory Group (AFAG) information • Health and safety in forestry • Forest and water guidelines • Operators' manual Lone working • effective communication system • fail to safe system • reporting in times Line contact possible procedures: • where possible, drive away to safe area • if safe, stay in machine and contact power • company/supervisor

		• jump from machine, bunny hop as far as possible Power lines • designated crossing point (goal posts) • liaison with power companies • site maps • AFAG • electricity at work • other
4.2	State why it is important to maintain good communication and team work within the working environment	Importance of communication could include: • health and safety • site planning/co-ordination • other
4.3	Describe the types of records that may be required for management and legislative requirements	Records: • logbook • service logbook • time sheet • maintenance schedule • other
4.4	Outline the emergency planning procedures relevant to the working area	Emergency planning procedures for a site could include: • location name • grid reference • designated meeting place • site location name • nearest access point • street name/district • type of access • suitable helicopter landing area • phone number of nearest doctor • location and phone number of nearest • accident and emergency hospital • works manager contact details • your own contact number
4.5	Describe how environmental damage can be caused and minimised	Environmental damage may be caused by: • incorrect storage of fuel and oil • defective machinery • poor work practice • oil and fuel spillages • other Environmental damage may be prevented by: • following principals of industry good practice • good housekeeping • appropriately trained operators • spill kits are available • other
4.6	Describe the correct methods for disposing of waste	Disposal of waste from workplace activities may include:

		• waste oils placed in approved containers for disposal • use of designated waste/recycle bins • other

Appendix 1 Practical table

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All criteria must be achieved.

Activity number and description	Achieved
1.1 Identify the hazards and risks associated with the working area, the proposed work and the machines	
1.2 Use appropriate tools, equipment and personal protective equipment (PPE)	
1.3 Work in a way which maintains health and safety and is consistent with relevant legislation and industry best practice	
1.4 Carry out work to minimizes environmental damage	
2.1 Carry out pre and post start checks of the machine consistent with environmental best practice and manufacturers recommendations	
2.2 Carry out safe access and egress	
2.3 Carry out the operation on site in a safe, effective and efficient way	
3.1 State the safety requirements and routine checks required for the machine	
3.2 Explain the function of all controls and how to interpret instrument readings	
3.3 State the factors that may cause the cooling system to overheat	
3.4 Describe how to check the battery(s) and report on the condition	
3.5 Explain the safe procedure to follow for detecting leaks in high pressure hydraulic systems	
3.6 Explain the procedure to follow when replacing a hydraulic hose	
3.7 Describe safe driving techniques that should be used on site	
4.1 Outline key health and safety legislation and industry good practice	
4.2 State why it is important to maintain good communication and team work within the working environment	
4.3 Describe the types of records that may be required for management and legislative requirements	
4.4 Outline the emergency planning procedures relevant to the working area	
4.5 Describe how environmental damage can be caused and minimised	
4.6 Describe the correct methods for disposing of waste	

Appendix 2 Sources of general information

The following documents contain essential information for centres delivering City & Guilds qualifications. To download the documents and to find other useful documents, go to the ***Centre Document Library*** on ***www.cityandguilds.com*** or click on the links below:

Quality Assurance Standards: Centre Handbook
This document is for all approved centres and provides guidance to support their delivery of our qualifications. It includes information on

- Centre quality assurance criteria and monitoring activities
- Administration and assessment systems
- Centre-facing support teams at City & Guilds / ILM
- Centre quality assurance roles and responsibilities.

The Centre Handbook should be used to ensure compliance with the terms and conditions of the Centre Contract.

Quality Assurance Standards: Centre Assessment
Approved centres must have effective quality assurance systems to ensure optimum delivery and assessment of qualifications. Quality assurance includes initial centre approval, qualification approval and the centre's own internal procedures for monitoring quality. Centres are responsible for internal quality assurance and City & Guilds is responsible for external quality assurance. All external quality assurance processes reflect the minimum requirements for verified and moderated assessments, as detailed in the Centre Assessment Standards Scrutiny (CASS), section H2 of Ofqual's General Conditions. For more information on both CASS and City & Guilds Quality Assurance processes visit: the **What is CASS?** and **Quality Assurance Standards** documents on the City & Guilds website.

This document sets out the minimum common quality assurance requirements for our regulated and non-regulated qualifications that feature centre assessed components. Specific guidance will also be included in relevant qualification handbooks and/or assessment documentation.

It incorporates our expectations for centre internal quality assurance and the external quality assurance methods we use to ensure that assessment standards are met and upheld. It also details the range of sanctions that may be put in place when centres do not comply with our requirements, or actions that will be taken to align centre marking/assessment to required standards. Additionally, it provides detailed guidance on the secure and valid administration of centre-assessments.

Access arrangements - When and how applications need to be made to City & Guilds provides full details of the arrangements that may be made to facilitate access to assessments and qualifications for candidates who are eligible for adjustments in assessment.

The ***Centre Document Library*** also contains useful information on such things as:

- Conducting examinations
- Registering learners
- Appeals and malpractice

Useful contacts

- Please visit the Contact Us section of the City & Guilds website, ***Contact us***

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City & Guilds is the global skills partner, empowering people, organisations and economies to develop the skills they need for growth. With almost 150 years of trusted expertise, we support people into work, help them develop on the job and move into the next job.

We work with Governments, employers, training providers, colleges and industry stakeholders to design and deliver high-quality training, qualifications, assessments and credentials that lead to meaningful career progression. We understand the life changing link between skills development, social mobility and success. Our solutions span critical sectors including construction, engineering, transport, energy and electrical, serving over 1 million learners annually.

Through our comprehensive portfolio of brands and trusted global network, we set industry-wide standards for technical, behavioural and commercial skills to improve performance and productivity. We believe you can achieve your potential - and we're here to help make it happen.

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