



National Unit Specification: general information

UNIT Preparing Machinery for Operational Performance (SCQF level 5)

CODE F6R0 11

SUMMARY

This Unit provides an introduction to the key principles and techniques of preparing machinery for operational performance. This Unit provides an introduction to the correct procedures for setting up and checking plant machinery before use. On completion of this Unit, candidates will be able to complete functional checks, select and check relevant ancillary equipment or accessories as required, and operate equipment or machinery whilst understanding and complying at all times with the relevant safety requirements. This Unit is suitable for candidates working towards a Modern Apprenticeship in the Construction Operative and Specialist suite.

OUTCOMES

- 1 Select machinery and equipment for the specified operation.
- 2 Complete functional checks of machinery and equipment before use.

RECOMMENDED ENTRY

While entry to this Unit is at the discretion of the centre, candidates undertaking a National Progression Award at SCQF level 5, as part of a Modern Apprenticeship, must meet the necessary criteria which includes being employed in the relevant industry.

CREDIT VALUE

0.5 credit at SCQF level 5 (3 SCQF credit points at level 5*).

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

Administrative Information

Superclass: TK

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National Unit Specification: general information (cont)

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CORE SKILLS

There is no automatic certification of Core Skills in this Unit.

This Unit provides opportunities for candidates to develop aspects of the following Core Skills:

- ◆ *Working with Others* (SCQF level 3)
- ◆ *Communication* (SCQF level 3)
- ◆ *Problem Solving* (SCQF level 3)

National Unit Specification: statement of standards

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Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit Specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

OUTCOME 1

Select machinery and equipment for the specified operation.

Performance Criteria

- (a) Identify the correct machinery and ancillary equipment for the specified task.
- (b) Describe the basic components, controls and characteristics of the machinery and equipment to be used.
- (c) Select appropriate personal protective equipment (PPE) for the specified task, in accordance with organisational requirements.

OUTCOME 2

Complete functional checks of machinery and equipment before use.

Performance Criteria

- (a) Prepare and adjust machinery and equipment to meet operational requirements.
- (b) Check safety and security of components and controls in accordance with the operator's handbook.
- (c) Confirm with colleagues all checks have taken place before use.
- (d) Comply with all current workplace safety and legislative requirements.
- (e) Dispose of waste in accordance with legislative requirements.

National Unit Specification: statement of standards (cont)

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EVIDENCE REQUIREMENTS

Candidates are required to produce evidence to confirm that they have achieved all Outcomes and Performance Criteria outlined in this Unit.

Performance evidence is required to demonstrate the candidate has achieved the standard specified in the Outcomes and Performance Criteria for Outcomes 1 and 2. Performance evidence should be supplemented with an assessor observation/operational checklist and produced at an appropriate interval in training, under supervised conditions, once the candidate has developed the necessary skills and knowledge required to carry out the work.

Performance evidence should be demonstrated by the candidate preparing machinery for one of the following operations:

- ◆ Accessing work areas
- ◆ Compacting
- ◆ Constructing and forming
- ◆ Erecting and dismantling
- ◆ Excavating and extracting
- ◆ Laying and distributing
- ◆ Lifting and transferring
- ◆ Moving and handling
- ◆ Processing
- ◆ Receiving and transporting
- ◆ Slinging and signalling

The candidates should be required to use the correct terminology at all times when identifying components and controls of machinery, and carrying out any practical assignments (Outcomes 1 and 2).

As part of the assessment for this Unit, the candidate may also submit written product evidence such as a works checklist or completed risk assessment form. Oral evidence of knowledge and understanding may be demonstrated by the candidate during practical assignments set for all Outcomes and noted at the time by the observer.

National Unit Specification: support notes

UNIT Preparing Machinery for Operational Performance (SCQF level 5)

This part of the Unit Specification is offered as guidance. The support notes are not mandatory.

While the exact time length allocated to this Unit is at the discretion of the centre, the notional design length is 20 guided learning hours.

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

The Outcomes and Performance Criteria for this Unit can be demonstrated by the candidate preparing machinery and equipment for:

- ◆ Accessing work areas
- ◆ Compacting
- ◆ Constructing and forming
- ◆ Erecting and dismantling
- ◆ Excavating and extracting
- ◆ Laying and distributing
- ◆ Lifting and transferring
- ◆ Moving and handling
- ◆ Processing
- ◆ Receiving and transporting
- ◆ Slinging and signalling

The Unit has been designed as a mandatory Unit as part of the National Progression Award in Plant Operations, but can also be delivered as a standalone Unit.

The content and context of this Unit has been set at an introductory level so that the candidate can develop a basic knowledge and ability in preparing machinery for operational performance within a construction environment.

Health and Safety are vital to working practices within the construction industry and therefore, emphasis will be placed wherever appropriate during the delivery of this Unit on the correct application of Health and Safety principles and processes, in accordance with current codes of practice and legislation.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

These notes are for guidance purposes only, but are not to be considered as complete guidance to learning and teaching approaches.

Opportunities for integrated delivery of this Unit may be possible by candidates covering the Outcomes and Performance Criteria during delivery of any or all of their optional NPA in Plant Operations Units.

The introductory training for this Unit should take place in a separate training area independent of the productive work environment and using dedicated equipment and resources. This should cover underpinning and practical principles before any practical application of knowledge is carried out by candidates.

National Unit Specification: support notes (cont)

UNIT Preparing Machinery for Operational Performance (SCQF level 5)

Delivery of this Unit should focus on developing candidates' knowledge and understanding, before they commence any practical work on-site. This will include making sure that they know and understand the pre-operational checks to be carried out on plant machinery before any work starts.

Delivery of the practical components of this Unit should ensure that candidates learn the importance of clearly communicating with work colleagues when all checks have taken place. Deliverers should make sure that candidates know to adhere to relevant Health and Safety regulations and legislation relating both to working practices within the construction environment, as well as those specific to any practical task they are requested to carry out (such as emphasising the importance of selecting and using the correct PPE at all times).

E-learning approaches may be appropriate to help tailor delivery to suit the individual needs or learning styles of candidates. This might include, for example, encouraging learners to use electronic resources to conduct research into a specific knowledge area.

OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

The Core Skills of *Working with Others* (SCQF level 3) and *Communication* (SCQF level 3) are vital throughout this Unit, as candidates will need to be able to effectively communicate to their colleagues using the correct terminology, whilst maintaining awareness and ensuring the safety of others as they comply with codes of practice and working regulations.

The need to efficiently plan and organise a task will be required when carrying out the practical assignment on-site — key aspects of the Core Skill of *Problem Solving* (SCQF level 3).

Assessment processes may enable candidates the opportunity to develop their Written Communication skills.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

Centres may use the Instruments of Assessment they consider to be most appropriate, and the following notes are given as guidance only.

Underpinning and practical knowledge of preparing machinery for operational performance materials should be assessed before any practical assignments are carried out by candidates. This will include assessment of a candidate's ability to identify the correct machinery for a specified task. Assessment of practical performance should take place under supervised conditions and confirm a candidate's ability to carry out functional checks of machinery, whilst adhering to Health and Safety regulations and legislation.

Opportunities for integrated assessment of this Unit may be possible by candidates covering the Outcomes and Performance Criteria during assessment of any or all of their optional Units.

For Outcomes 1 and 2, candidates may be assessed by centres setting a series of technical questions designed to ensure candidates have developed the required standard of knowledge for this Unit. Any oral responses given by candidates will be recorded by an observer at the time of assessment — this may be an appropriate method when the candidate carries out any practical assignments.

National Unit Specification: support notes (cont)

UNIT Preparing Machinery for Operational Performance (SCQF level 5)

Outcomes 1 and 2 may be assessed by centres setting candidates a series of appropriate practical assignments carried out under supervised conditions and recorded in an assessor's observation/operational checklist. Practical assignments undertaken by a candidate will be assessed according to their ability to carry out the task safely, using appropriate machinery according to manufacturer's guidelines.

Adherence to appropriate working regulations and Health and Safety procedures will be observed during the practical exercise carried out by the candidate towards all Outcomes.

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

DISABLED CANDIDATES AND/OR THOSE WITH ADDITIONAL SUPPORT NEEDS

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website www.sqa.org.uk/assessmentarrangements