



**NATIONAL CERTIFICATE MODULE: UNIT SPECIFICATION****STATEMENT OF STANDARDS****UNIT NUMBER:** 1153084**UNIT TITLE:** CROSSCUTTING USING A CHAINSAW

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

**OUTCOME**

1. CHECK AND START A CHAINSAW PRIOR TO BEGINNING WORK

**PERFORMANCE CRITERIA**

- (a) The wearing of protective clothing and equipment is in accordance with the appropriate section of current FASTCo and H.S.E. guidance.
- (b) The pre-start check of the chainsaw is in accordance with the appropriate section of current FASTCo and H.S.E. guidance.
- (c) The fuelling of the chainsaw is in accordance with the appropriate section of current FASTCo and H.S.E. guidance.
- (d) The starting procedures for the chainsaw, from cold and hot, are in accordance with the appropriate section of current FASTCo and H.S.E. guidance.
- (e) The testing of the chain brake at full revs is in accordance with the set procedures.
- (f) Description of how to check and start a chainsaw prior to beginning work is accurate.

**RANGE STATEMENT**

Set procedures:

- (i) full throttle is applied;
- (ii) chain brake is activated by rolling the left wrist;
- (iii) chain stops as soon as the brake is applied;
- (iv) throttle is released after the brake is activated;
- (v) any failure of the chain brake is reported to the appropriate authority.

Starting procedures: from hot; from cold.

**EVIDENCE REQUIREMENTS**

Performance evidence for checking and starting for Performance Criteria (a) to (e).

For Performance Criterion (f) evidence should be based on NPTC (1993) Assessment Schedule 1A relating to elements 10.01.

Petrol driven chainsaws with a maximum guidebar length of 450mm (18") should be used. All saws use must comply with current FASTCo. and H.S.E recommendations and must be fitted with safety chain.

**\* Additional note on Evidence Requirements.**

All assessments must be carried out by an assessor who is registered with the Scottish Skills Testing Service (SSTS)/National Proficiency Test Council (NPTC) for assessment of Schedule E material (Arborticultural use of power saws).

**OUTCOME**

2. MAINTAIN AND REPLACE EXTERNAL COMPONENTS OF A CHAINSAW

**PERFORMANCE CRITERIA**

- (a) The wearing of protective clothing and equipment is in accordance with the appropriate section of FASTCo Safety Guide 301.
- (b) The selection of tools, equipment and materials is appropriate to the job to be undertaken.
- (c) The checking of the guide bar, chain and sprocket, upon removal is correct.
- (d) The sharpening of the chain is in accordance with the manufacturer's recommended procedures.
- (e) The maintenance of the guide bar is in accordance with the manufacturer's recommended procedures.
- (f) The refitting of the guide bar and chain, including the tensioning of the chain is correct.
- (g) The description of how to maintain and replace external components of a chainsaw is accurate.

**RANGE STATEMENT**

The range for this outcome is fully expressed within the performance criteria.

**EVIDENCE REQUIREMENTS**

For Performance Criteria (a) to (f) the candidate should carry out the operator maintenance and maintenance checks specified in the Performance Criteria with performance monitored by an observation checklist.

For Performance Criterion (c) checks of guide bar, chain and sprocket should refer to:

- (i) damage/wear to teeth and drive chassis;
- (ii) damage/wear to guide bar;
- (iii) straightness of guide bar;
- (iv) damage/wear to drive sprocket.

For Performance Criterion (g) oral and/or written description of maintaining and replacing external components should be based on NPTC (1993) Assessment Schedule 1A relating to element 10.02.

In addition to the chainsaws provided for Outcome 1, a sample of worn/damaged guidebars, chains and sprockets should be provided to check the candidate's ability to recognise common faults and abnormal wear patterns.

**\* Additional note on Evidence Requirements.**

All assessments must be carried out by an assessor who is registered with the Scottish Skills Testing Service (SSTS)/National Proficiency Test Council (NPTC) for assessment of Schedule E material (Arborticultural use of power saws).

## **OUTCOME**

### **3. CROSSCUT AND STACK TIMBER TO A GIVEN SPECIFICATION**

## **PERFORMANCE CRITERIA**

- (a) The selection of tools, equipment and materials is appropriate to the job to be undertaken to ensure all are serviceable and comply with stipulated safety regulations.
- (b) The wearing of protective clothing and equipment is correct and in accordance with current FASTCo and H.S.E. guidance.
- (c) Crosscutting and stacking of timber is carried out safely and in accordance with current FASTCo and H.S.E. guidance and use the appropriate techniques and aid tools for the size of timber and prevailing ground conditions.
- (d) The stacking of prepared timber is in accordance with current FASTCo and H.S.E. guidance and given instructions.
- (e) Description of how to cross cut and stack timber using a chainsaw and aid tools is accurate.

## **RANGE STATEMENT**

The range for this outcome is fully expressed within the performance criteria.

## EVIDENCE REQUIREMENTS

For Performance Criteria (a) to (d) the candidate should carry out the cross cutting and stacking of the timber using correct and safe techniques, with performance monitored on a suitable observation checklist (Ref. FASTCo. 304 CL).

For Performance Criterion (e) written and/or oral description of cross cutting and stacking timber. Evidence should be based on NPTC (1993) Assessment Schedule 1A relating to elements 16.01.

A minimum of 5 pieces of timber with a minimum length of 6m and ranging from 100mm to 500mm in diameter, should be located so as to create a range of compression and tension forces ready for cross cutting. The candidate should be given a specification (length and diameter) to which the timber has to be converted.

### \*Additional note on Evidence Requirements.

All assessments must be carried out by an assessor who is registered with the Scottish Skills Testing Service (SSTS)/National Proficiency Test Council (NPTC) for assessment of Schedule E material (Arborticultural use of power saws).

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## ASSESSMENT

In order to achieve this unit, candidates are required to present sufficient evidence that they have met all the performance criteria for each outcome within the range specified. Details of these requirements are given for each outcome. The assessment instruments used should follow the general guidance offered by the SQA assessment model and an integrative approach to assessment is encouraged. (See references at the end of support notes).

Accurate records should be made of the assessment instruments used showing how evidence is generated for each outcome and giving marking schemes and/or checklists, etc. Records of candidates' achievements should be kept. These records will be available for external verification.

## SPECIAL NEEDS

In certain cases, modified outcomes and range statements can be proposed for certification. See references at end of support notes.

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**NATIONAL CERTIFICATE MODULE: UNIT SPECIFICATION****SUPPORT NOTES**

**UNIT NUMBER:** 1153084

**UNIT TITLE:** CROSSCUTTING USING A CHAINSAW

**SUPPORT NOTES:** This part of the unit specification is offered as guidance. None of the sections of the support notes is mandatory.

**NOTIONAL DESIGN LENGTH:** SQA allocates a notional design length to a unit on the basis of time estimated for achievement of the stated standards by a candidate whose starting point is as described in the access statement. The notional design length for this unit is 20 hours. The use of notional design length for programme design and timetabling is advisory only.

**PURPOSE** The purpose of this module is to help candidates develop his/her skills in maintaining and using a chainsaw to crosscut and stack timber.

SQA publishes summaries of NC units for easy reference, publicity purposes, centre handbooks, etc. The summary statement for this unit is as follows:

On completion of this module the candidate will be able to check and start a chainsaw, together with maintaining and replacing the chainsaw's external components. The candidate will also be able to cross cut and stack timber to a given specification.

**CONTENT/CONTEXT** This module may be taken in isolation to meet HSE certificate of competence requirements for land based industries e.g. General estate work, fencing, or conservation based employment. It can also form an introduction to chainsaw dominated work e.g. forestry or arboriculture.

Safety regulations and safe working practices and procedures should be observed at all times.

Corresponding to Outcomes 1-3:

1. The statutory instruments relating to chainsaws: The safety factors as in Forestry and Arboriculture Safety and Training Council Safety Guides nos. 301) Power Chainsaws), 304 (Cross cutting and Stacking), 801 (Noise and Hearing Conservation) and 802 (First Aid); HSE Guidance Note GS 48 (Training and Standards of Competence for Users of Chainsaws); HSE Agricultural Safety Leaflet AS(20) Chainsaws.

The chainsaw complies with FASTCo Safety Guide 301 and HSE leaflet AS 20. The chainsaw is checked for fuel and if required refuelled complying with the appropriate section of FASTCo Safety Guide 301.

Pre-start checks are carried out in accordance with the relevant section of FASTCo Safety Guide 301.

All protective clothing and equipment should be worn as stipulated in FASTCo Safety Guide 301 and HSE leaflet AS 20.

The saw should be started using the techniques described in FASTCo Safety Guide 301. The chain brake should be tested at this time.

2. Daily, weekly, monthly maintenance operations to the engine unit, casings, guide bar and chain should be carried out in accordance with the manufacturer's recommendations. Defects should be reported to the appropriate authority.

The importance of maintaining aid tools should be stressed.

3. Crosscutting will be done in accordance with FASTCo Safety Guide 304. Material will be converted and stacked in a manner which is in accordance with management objectives.

Aid tools should include wedges (plastic or alloy), cant hook, pulp hooks or timber tongs.

**APPROACHES TO GENERATING EVIDENCE** A practical module with the time being divided between the workshop and work site.

**ASSESSMENT PROCEDURES** Examples of instruments of assessment which could be used are as follows:

Outcome 1      IA Assignment

The candidate should be set an assignment to test the application of knowledge and skills required to check and start a chainsaw prior to beginning work.

The assignment should consist of two parts:

- (i) The candidate should be set a practical exercise for Performance Criteria (a) to (e) and will be required to check and start a chainsaw prior to beginning work, to the standards specified in the Performance Criteria.

The assessment should be carried out with the aid of an observation checklist and in accordance with the safety guidelines laid down in FASTCo Safety Guide 10 and associated checklist (10cl).

- (ii) The candidate should be set 4 restricted response questions for Performance Criterion (f).

The questions should be based on those identified in NPTC (1993) Assessment Schedule A relating to elements 10.01.

Satisfactory achievement of the Outcome will be based on all the Performance Criteria being met. This will be demonstrated by the candidate:

- (i) correctly checking and starting chainsaw;
- (ii) producing 3 correct responses for Performance Criterion (f).

Outcome 2 IA Assignment

The candidate will be set an assignment to test the application of knowledge and skills required to maintain and replace external components of a chainsaw.

The assignment should consist of two parts:

- (i) The candidate should be set a practical exercise for Performance Criteria (a) to (f) and will service and replace external components of a chainsaw to the standards specified in the Performance Criteria. The appropriate manufacturer's manual should be available.

The assessment may be carried out with the aid of an observation checklist and the appropriate manufacturer's manual.

- (ii) The candidates should be set 10 restricted response questions for Performance Criterion (g).

The questions should be based on those identified in NPTC (1993) Assessment Schedule A relating to element 10.02.

Satisfactory achievement of the Outcome will be based on all the Performance Criteria being met. This will be demonstrated by the candidate.

- (i) meeting Performance Criteria 8a) to (f);
- (ii) producing a minimum of 8 correct responses for Performance Criterion (g).

Outcome 3 IA Assignment

The candidate should be set an assignment to test the application of knowledge and skills required to cross cut and stack timber.



The assignment should consist of two parts:

(i) The candidate will be set a practical exercise for Performance Criteria (a) to (d) and will require the candidate to complete the following to the standards specified in the Performance Criteria:

- (a) crosscut three lengths of timber located so as to create a range of compression and tension forces cutting to a pre-set specification;
- (b) stack the cross cut produce.

The assessment should be carried out with the aid of an observation checklist and in accordance with the appropriate FASTCo Safety Guide or associated checklists.

(ii) The candidate will be set 3 restricted response questions for Performance Criterion (e).

The questions should be based on those identified in NPTC (1993) Assessment

Satisfactory achievement of the outcome will be based on all the performance criteria being met. This will be demonstrated by the candidate:

- (i) meeting Performance Criteria (a) to (d);
- (ii) producing 3 correct responses for Performance Criterion (e), (100% correct response is required as these are key safety points).

**RECOGNITION** Many SQA NC units are recognised for entry/recruitment purposes. For up-to-date information see the SQA guide 'Recognised and Recommended Groupings'.

## REFERENCES

1. Guide to unit writing.
2. For a fuller discussion on assessment issues, please refer to SQA's Guide to Assessment.
3. Procedures for special needs statements are set out in SQA's guide 'Students with Special Needs'.
4. Information for centres on SQA's operating procedures is contained in SQA's Guide to Procedures.
5. For details of other SQA publications, please consult SQA's publications list.

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