



## NATIONAL UNITS

### TITLES/LEVELS OF NATIONAL UNITS VERIFIED

#### PRACTICAL CRAFT SKILLS — 318

##### **Woodworking Skills**

D182 10 Bench Skills 1 — Wood Flat Frame Construction

D182 11 Bench Skills 1 — Wood Flat Frame Construction

D183 10 Bench Skills 2 — Carcase Construction

D184 10 Machining and Finishing — Wood

##### **Engineering Craft Skills**

D178 10 Bench Skills — Metal

D178 11 Bench Skills — Metal

D179 10 Machine Processes — Metal

D179 11 Machine Processes — Metal

D180 10 Fabrication and Welding

D180 11 Fabrication and Welding

D181 10 Practical Electronics

D181 11 Practical Electronics

D536 09 Craftwork Enterprise

### FEEDBACK TO

#### **General comments:**

##### **Unit Verification**

Unit Verification of complete evidence was carried out in a random sample of centres over a widespread geographical area. Units and assessments in Craft Skills were examined at both Intermediate 1 and Intermediate 2 levels.

The increase in the quality of craftwork previously found in course projects proved to be reflected in the generally well-constructed Unit evidence. The process also provided an opportunity to reaffirm established benchmarks and criteria for evidence at both levels.

There is a clear indication that the general standard of craft skills of PCS candidates is improving year by year, and the advice given here will hopefully extend this encouraging trend.

#### **Advice on good practice and areas for further development:**

##### **Completion of Unit work**

The practice in some centres of presenting the aspects of Unit specification in candidate worksheets in the form of a checklist is to be encouraged. This simple device allows candidates to see clearly what is to be achieved at each stage of the work.

When setting out Unit evidence for verification, some centres seem to want to separate projects completed by candidates at different levels, and even taught by different teachers. It should be pointed out that even with the difference in teaching approach between S3/S4 and S5/S6 standards are exactly the same and should be applied evenly across all candidate groups.

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There were indications that some were not adequately prepared for Unit verification and this resulted in a small number of revisits. This seeks to reinforce the need for Verifiers to clearly establish the state of readiness of centres, and for centres to retain candidate evidence and make preparations for the agreed verification date.

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## COMPONENT/COURSEWORK IN NATIONAL COURSES

### COMPONENT/COURSEWORK VERIFIED

Course Project — Woodworking Skills	C035
Engineering Craft Skills	C034

### FEEDBACK TO

#### General comments:

On this the seventh year of presentation for Practical Craft Skills, the course generally was found to have been very well conducted by centres and there were no real difficulties encountered in the assessment verification process. As before a greater number of centres presented in an exemplary manner with some outstanding evidence in the quality of Craft Skills. This high standard was maintained, in some cases, in difficult circumstances of centre development and refurbishment. It was encouraging to find an increasing number of presentations.

Once more there was some evidence of candidates whose performance in the course project was upgraded from Intermediate 1 to Intermediate 2 and they had to be re-entered at that level.

More course presenters are saying that now that the course is fully embedded in the curriculum and they have become familiar with the administration procedures of recording, class management and time scale issues, they are finding the course much easier to manage.

There are still a small number of centres where the support materials are not getting through, for one reason or another, but this is a changing situation and improved communication systems are now in place.

Generally the materials presented for Verification were found to be almost 100% accurate in terms of concordance with the national standard, although there was evidence that a small number of centres were not prepared on the date agreed for the visit, and the candidate project evidence was not sufficiently advanced to be properly Verified. This again has resulted in small number of re-visits having to take place. It must be made clear to all centres that the course project should be complete and internally assessed before Verification. If a centre finds, after agreeing a date for verification, that they may not be finished on time they must contact the SQA and have the visit re-scheduled.

#### Advice on good practice and areas for further development:

##### Administration

While Verifiers continue to ensure the readiness of centres for the Verification visit, centres should continue to prepare adequately for the planned visit. On initial contact with the centre by the Verifier, through the SQA Co-ordinator, the course presenting staff should be aware of the steps to be taken to complete the preparation. This will include the full completion of the VS00 form, The full completion of the Master Record Sheet, with notes on candidate performance on the reverse side, and the completed project including surface preparation and application of finish.

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## Woodworking Skills

Although the clock project is still the preferred course project option alternative projects with similar skill processes such as the single door cabinet are now being undertaken. The craft skill evidence was generally found to be good, and quite excellent in some cases, however, there is always room for an improved performance.

Areas for further development were found in the following skill process areas:

### Marking out and squaring

There was some evidence where this important skill area could be improved, such as pairing stiles and rails of equal length and accurately squaring all joint lines.

### Mortice and tenon joints

These could be further improved by paying close attention to the squaring of shoulders, the true cutting of mortices and tenons so that the joint does not twist, and the depth of haunches in mortices to match the tenon haunches so that there are no gaps showing on the end. The purpose of a haunch is to provide strength and a resistance to twisting in a mortice and tenon joint so should be included in corner jointings. There was evidence of mortices extending outside the marked lines or cross rails planed too narrow resulting in mortice spaces showing on inside of flat frame. Candidates should restrict mortice slots to the width of corresponding rails and mortice within the marked lines. While the majority of joints were found to be tight fitting, there could be an improvement with more attention to these constructional details.

### Rebated butt joint

When cutting a rebated butt joint, candidates should take care to create a straight and square shoulder. Do not over saw when cutting shoulders as this weakens the joint and is visible in the finished work. When finishing to the end gauge line make sure the rebate is finished straight and square as any irregularities will show as gaps.

### Rebating

Candidates should make sure that any groove or rebate fits the panel thickness, and run smooth and even cut with no rough edges which will show. When rebating, always keep the rebate plane square and tightly held into the edge, so that the cut is square and even.

The rebate to rear of flat frame of the clock carcass was found to be too deep in some cases, resulting in a gap showing round edge of the clock face. To avoid this gap carefully flush off the surface before fitting the frame to the carcass. In this case, both the meeting faces should be carefully planed flat and sanded so that there are absolutely no gaps showing round the edges. When fitting a back panel make sure that the rebate is deep enough to allow for the thickness of the panel to avoid the panel projecting out beyond the carcass or frame.

### Curves and tapers

Great care should be taken in finishing the internal curves of the crown upstand of the clock and forming a straight and smooth tangential edge between these two curves. When taper planing to a pre-drawn line in the clock detail, the angles should be matched and square across without twist to receive the capping pieces. These capping pieces should be produced with matched vertical ends.

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## Chamfers

The quality of a chamfer depends upon how crisp and even the chamfer is throughout its length and the return along the ends. All chamfers and edges should be crisp and clean with no rounding caused by over sanding.

## Turnery

There was ample evidence of turnery formed where the gouge used was either not sharp enough or the wood used was of inferior quality pine, this resulted in a 'corky' or rough appearance. It is better to use a good hardwood for all turnery if no suitable pine is available.

Make sure that both the split turnery and finial are produced to the required tolerances both in diameter and length. It is very important first to produce a shaped profile or drawing and turn the work as accurately as possible to the shape created. Split turnery should be flattened on a sanding board before gluing in place to ensure a close fit. The two shapes should also be fitted exactly square across from each other.

## Final Assembly

There is still evidence of glue stains showing through the final coat of varnish. All surplus glue should be completely removed at the final assembly and cramping stage.

When cleaning off a flat frame care should be taken so that the frame finishes flat and within the tolerances. Particular care is required at the outside edges of the face, as any tapering will show easily from the frame end. Ensure that there is no twisting in the carcass, all surfaces should be flat and any rebates are lined up to receive a panel without gaps showing.

## Surface Preparation

All surfaces should be adequately prepared for the surface finish by sanding along the grain without leaving cross grain scratches. All gross blemishes should be removed before the application of the surface finish.

## Application of surface finish

There is still a variation in the quality and degree of surface finish between centres and this seems to be caused by some candidates rushing to complete projects at the end of the course.

It is very important to use an appropriate grain filler to raise and sand the grain before applying the surface coating, as many projects are down graded due to a rough and hurried finish. Before applying the surface coating, take care to read the manufacturers instructions, as thinning may be required. Candidates should remember that a number of well-applied thin coats, rubbed down when dry between applications is better than one or two thicker coats. If desired, a paint finish can be applied after the final verification of your internal grade.

In centres where there is little or no evidence of surface finish at the point of verification, candidates are encouraged to produce a range of evidence from unit work or on sample boards.

## **Engineering Craft Skill**

While this subject still has a lower uptake than Woodworking Skills, some candidates have demonstrated craft skills of a very high quality in terms of bench skills, machining processes, fabrication and thermal joining, surface preparation and finishing.

Bike Clamp — Areas for further development were found in the following skills process areas:

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### Accurate marking out

The standard of square cutting of ends and finishing to tolerance was found to be fairly good generally and quite excellent in a few cases.

### Threading and machine processes.

Turning to specified dimensions was found to be good but pre-threaded bar is to be used only by Intermediate1 candidates.

### Folding and forming

The forging processes were found to be good in almost all examples.

In some centres candidates had folded the sheet metal jaws of the clamp. This was due to the available heavy gauge material being too difficult to bend on a former.

### Fabrication methods

Again it was pointed out to some centres that in order to achieve a perfect alignment of the clamp it was better to weld one jaw in place, and only completing the welding assembly after wiring or clamping both jaws together

### Thermal joining processes

In a smaller number of centres there was evidence of poor welding — lack of continuity of weld and inadequate fusion between the parts.

### Deburring and surface finish

This was found to be well done by most centres and some candidates achieved a very effective hot blued finish.

### Final assembly and functionality

Although the bench work and machining skills were found to be good, candidates should be encouraged to take more care in the final assembly of the bike repair clamp as functionality is a major part of the final assessment.

There was evidence of the clamp not closing properly due to:

- ◆ Thread not running true.
- ◆ Welded nut not captured in line with threaded bar
- ◆ Top and bottom curved clamp jaws not aligned properly

Some centres are still allowing candidates to apply a heavy paint finish to projects. This practice should be left until after the verification visit, as it tends to obscure the quality of welding evidence.

### **Practical Electronics**

Although only a few centres have presented the Practical Electronics Unit, these candidates have demonstrated by their enthusiasm that this is an excellent and thoroughly motivating course option but as far as the Assessment Verification is concerned, apart from an overall check on the continuity of the circuit, there is no other means physically checking the wiring assembly evidence due to the small scale and inaccessibility of components.

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### **PCS in S3**

Secondary school centres that have been presenting courses to S3 candidates for the first time have found the process quite challenging in the early stages. The difference in maturity and tool-handling experience of these pupils demands a different and more structured approach to class management. Centres are already sharing methods and systems that they have found to be useful.

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