

## The Portfolio – Guidance to Candidates:-

Certificate in the Repair, Restoration and Conservation of Clocks / Watches

Final Grade Part II:-

Unit 8 : The Practical Restoration / Conservation of Clocks

Unit 13 : The Practical Restoration / Conservation of Watches

Unit 8 and Unit 13 require candidates to submit a Portfolio giving details of the conservation / restoration of five clocks / watches. These guidelines should be read to ensure that the nature of the work undertaken includes the necessary opportunities for restoration / conservation. Some or all of the items can be also included in the Record of Repairs required for Unit 5 : Final Grade, Part II : The Practical Repair of Clocks or Unit 10 : Final Grade, Part II : The Practical Repair of Watches.

### 1 Restoration / Conservation Items

You may choose any type of clock / watch to be the subject of conservation / restoration. Clearly if items of some antiquity are available there are wider opportunities for the candidate to research the maker or the style of replacement components but this does not preclude the use of more modern pieces which require “conservation / restoration”. It is the approach and nature of the work together with accompanying supplementary information which the Examiners consider to be important.

### 2 Documentation

A separate “List of Contents” is available for Unit 8 and Unit 13. The standard “Repair Forms” (“Clock Form”; “Quartz Watch Form” and “Mechanical Watch Form”) are used as with the Record of Repairs. The previous pages relating to the “Record of Repairs” should be read in conjunction with this section. If items are presented in both the “Record of Repairs” and the “Portfolio”, the “Repair Forms” should be photocopied to ensure complete documentation is present for both the “Record of Repairs” and the “Portfolio”.

The essential difference between the Record of Repairs and the Portfolio is the submission of supplementary information in the Portfolio to provide further details; this should focus on:-

1. Appraisal
2. The Conservation / Restoration Process
3. A Justification of the Conservation / Restoration Approach
4. Research

The completed Portfolio will consist of two parts:-

#### 1. The Standard Forms:-

- a. A “List of Contents” for the Portfolio
- b. A separate “Clock Form”, “Mechanical Watch Form” or “Quartz Watch Form” for each for each item giving basic information. These forms must be signed by a qualified member of the Institute (MBHI / FBHI) to show that the work has been completed to a good commercial standard.

Portfolio, Standard Forms, continued:-

**As with the “Record of Repairs” the BHI Senior Examiner will check the “List of Contents” and the “Repair Forms” for each item to ensure that they fulfil the requirements. Any Portfolio which fully meets the requirements will receive a “Pass” (40%)**

- 2. Supplementary Information** The candidate may submit supplementary information for each Portfolio item in the form of text, sketches and / or photographs. The BHI Examiners will assess this supplementary information which must provide for each Portfolio item:-

- a. Appraisal
- b. The Conservation / Restoration Process
- c. A Justification of the Conservation / Restoration Approach
- d. Research

The expression “Conservation / Restoration is used to encompass the range of approaches described in The Servicing of Clocks and Watches Appendix 1. Further guidance to define the required content is given on Page 4.

**3. How your mark is determined**

- a. Any Portfolio which fully meets the requirements will gain a Pass (40%)
- b. The mark awarded by the Examiners for the supplementary information, if over 40 %, will form the candidate’s mark.
- c. If 66% is attained a “Pass with Merit” is awarded.

### 3 Further details about the type of work for submission within the Portfolio:-

Any clock or watch is suitable for inclusion in the Portfolio. It is, however, necessary to ensure that the work undertaken is not merely of a routine repair nature but requires more complex repair techniques and the replacement of components / conservation. As a guide the following is required:-

- a) the inclusion of “more complex repair techniques”
- b) the replacement of at least two significant components that require manufacture by the candidate

**The work for a Clock Portfolio, Unit 8, could include:-**

***Examples of “more complex repair techniques”:-***

- 1) *Train, going / striking:-*
  - a) *bush worn pivot holes which require the making of bushes for particular situations, use of depthing tool to check **and adjust** depths of wheels and pinions*
  - b) *re-pivot narrow, worn / broken pivots, including making a flat drill*
  - c) *correct end-shakes*
  - d) *damaged wheels and pinions (make replacement teeth)*
  - e) *truing wheels*
- 2) *Striking work:-*
  - a) *Repair rack with damaged teeth*
  - b) *Repair worn or damaged gathering pallet*
  - c) *Repair worn or damaged striking levers*

Portfolio, Examples of “more complex repair techniques” continued

3) *Escapement:-*

- a) *Repair worn damaged recoil / dead beat escape wheel*
- b) *Platform – replace damaged jewels, rubbed in and pushed in jewels (including use of jewellery tool reamers and pushers), depthing of cylinder and escape wheel - adjusting the chariot*

***Examples of “significant components” to be replaced by the candidate, these components are to be actually made by the candidate not purchased or modified components:-***

1) *Escapement:-*

- a) *Replace worn / damaged recoil / dead beat escapement pallets*
- b) *Replace worn damaged recoil / dead beat escape wheel*
- c) *Replace damaged crutch*
- d) *Platform, make and fit replacement balance staff, make and fit replacement cylinder plugs*

2) *Train:-*

- a) *Replace damaged great wheel / train wheel*
- b) *Replace arbor and pinion*

3) *Striking work:-*

- a) *Make and fit new rack*
- b) *Make and fit new gathering pallet*
- c) *Replacement striking lever*

**The work for a Watch Portfolio, Unit 13, could include:-**

***Examples of “more complex repair techniques”:-***

1) *Train:-*

- a) *bush worn pivot holes*
- b) *use of depthing tool to check **and adjust** depths of wheels and pinions*
- c) *re-pivot worn / broken pivots, including making a flat drill*
- d) *correct end-shakes*
- e) *damaged wheels and pinions (make replacement teeth)*
- f) *truing wheels*

2) *Balance and Escapement:-*

- a) *Replace pallet jewels*
- b) *Replace cylinder plugs*
- c) *Replace impulse pin*
- d) *Replace hairspring*

***Examples of “significant components” to be replaced by the candidate, these components are to be actually made by the candidate not purchased or modified components:-***

1) *Escapement:-*

- a) *Replace balance staff*

2) *Train:-*

- a) *Replace damaged barrel / train wheel*
- b) *Replace arbor and pinion*

Portfolio, Examples of “significant components” to be replaced by the candidate”, continued:-

- 3) *Various:-*
- a) *Replace stem*
  - b) *Replace setting lever spring*
  - c) *Replace ratchet wheel*

## 4 Supplementary Information

The preparation of a Portfolio gives many opportunities for the student to extend the information which is routinely presented on the standard forms.

There are four distinct areas which must form the focus of this supplementary information for each item. These are given below with details of the type of content which will be acceptable:-

### 1. **Appraisal:-**

You are required to demonstrate that you can evaluate the condition of the items that receive your attention and can appraise the work of others by giving:-

- initial condition of the clock / watch movement and its case

#### **INCLUDE**

- if appropriate, an evaluation of previous repairs, their quality, effectiveness and whether they are appropriate

### 2. **The Conservation / Restoration Process:-**

You are expected to describe the design / making of the two new components for each Portfolio item together with other work undertaken. If there are more than two components please select the more complex items.

Describe:-

- the design / making of the two missing / replacement components with, where appropriate, calculations

#### **AND**

- the other work undertaken to the clock / watch

### 3. **A Justification of the Conservation / Restoration Approach:-**

You are required to show that you are familiar with the alternative approaches available. You are expected to refer to the Examinations Board Paper on The Servicing of Clocks and Watches when providing:-

- a comparative evaluation of the selected approach with alternatives

#### **INCLUDE**

- steps taken to maintain originality including the reasons for selecting the materials **and** the design for replacing broken or missing components

#### **AND**

- an evaluation of the work undertaken to the clock / watch

The Portfolio, Supplementary Information, continued:-

#### **4. Research:-**

You must show that you are able to carry out horological research and present your findings by describing:-

- research to discover information about the historical background of the maker of the clock / watch.
- research to determine the design of a replacement component (unless included in The Conservation Restoration Process).
- research to learn about a manufacturing process required to produce a replacement component.
- research to consider the performance of the piece that has been restored.
- other research directly relevant to the piece.

It will be evident, from each item above that the supplementary information does not merely extend the basic documentation to form a step by step guide to the restoration / conservation process. The supplementary information requires the application of skills such as research, evaluation and analysis. Desirable content is not routine but original to the candidate and to each Portfolio item; it demonstrates the depth of learning involved in the work.

**Marks are not awarded for details of routine servicing or routine repair procedures and these should not be included in the supplementary information.**

#### **Illustrations**

Photographs and sketches can make an important contribution if they illustrate and clarify points contained in the text. They should focus on unique features of the item and its conservation / restoration; there is little benefit in providing general photographs without any clear purpose.

#### **How much to write**

Some students find it difficult to limit the length of supplementary information for each Portfolio item. There is no intent by the Institute to constrain a candidate's enthusiasm but it is helpful to provide a guide to the quantity of information for each Portfolio item. Using the headings, "Appraisal", "The Conservation / Restoration Process", "A Justification of the Conservation / Restoration Approach" and "Research" a candidate can readily provide sufficient depth for each conservation / restoration item within eight carefully selected pages (if typed); this would include any detail photographs and drawings.

**Each of the sections must be clearly shown with the appropriate heading to guide the Examiner.**

The qualities required for a Pass with Merit are readily apparent from such a Portfolio, indeed, it is preferable to many pages of a routine nature. If more than eight pages are included for any one item Examiners will focus mainly on the first eight pages present.

The Portfolio, Supplementary Information, continued:-

## Presentation

The Portfolio should be assembled in a loose-leaf ring binder; clarity of presentation is essential but marks are not awarded for word processing or desktop publishing skills. Excellent layout is often indicative of a candidate striving to achieve at a high standard both in content and presentation but it can be time consuming. The emphasis should be towards investigative work or evaluating the conservation / restoration. Some excellent examples of Portfolios have been hand written with inserted photographs and drawings.

**The completed Portfolio is to be submitted by the candidate to Upton Hall for assessment in May / June. The actual submission date is provided each year when details for the examination are circulated.**

## 5 Summary and checklist for the Portfolio:-

A finished Portfolio will consist of:-

- The “List of Contents” giving the clocks / watches which have been the subject of conservation / restoration and details, for each item, of the replacement parts and non-routine repair processes.
- A “Repair Form” form for each Portfolio item, containing details of the item and the work involved. The form must be signed by a qualified member of the Institute to provide evidence that the work has been completed to a good standard.
- Supplementary information, notes, photographs and sketches produced by the candidate with the four broad area headings for each Portfolio item:-
  - Appraisal
  - The Conservation / Restoration Process
  - A Justification of the Conservation / Restoration Approach
  - Research

## 6 The Assessment of the Portfolio

A “Pass” can only be awarded if, when the Senior Examiner checks the content of the Portfolio, it is evident that the standard documentation and the nature of the work undertaken meets the guidelines for the Portfolio. If the required number of items has not been presented, the forms are incomplete or the work does not conform to the guidelines, the Portfolio will be returned with a note of explanation.

**A Portfolio which has been found to be incomplete may be resubmitted at a subsequent examination after completing the missing items. A fee will be payable, dependent on the extent of omissions.**

The Portfolio, Assessment, continued:-

Assessment of the Portfolio takes place in three stages:-

1. The initial, internal, assessment is by a qualified member of the Institute (MBHI / FBHI) who checks that the work has been completed to a good standard, as with the Record of Repairs in Units 4, 5, 9, 10.
2. Checking by the Senior Examiner ensures that the number of items, the nature of the work and the initial assessment by a qualified member of the Institute fulfil the examination requirements. If the Portfolio is found to be “complete” a “Pass” (40%) is awarded.
3. The supplementary information is then assessed by Institute Examiners who award a mark reflecting, for each restored item, the depth and quality of the supplementary work.

Assessing the supplementary information:-

Two BHI Examiners assess the supplementary information, which has been submitted with the basic documentation. Each item is assessed separately; the information submitted provides a range of insights into the candidate’s work. Four broad parameters are used:-

1. The depth of information
2. Quality of content
3. Use of photographs / sketches / drawings
4. Approach to restoration / conservation

How your mark is calculated:-

A “Pass” (40%) can only be awarded if, when the Senior Examiner checks the content of the Portfolio, it is evident that the standard documentation and the nature of the work undertaken meets the guidelines for the Portfolio.

If the Portfolio has been checked by the Senior Examiner and awarded a “Pass” (40%), the mark awarded by the Examiners for any supplementary information is then included to give a higher mark. If 66% is attained a Pass with Merit will be awarded