-SQA- SCOTTISH QUALIFICATIONS AUTHORITY

Hanover House
24 Douglas Street
GLASGOW G2 7NQ

NATIONAL CERTIFICATE MODULE DESCRIPTOR

-Module Number- **2140090** **-Session-1990-91**
-Superclass- **WH**

-Title- **MAINTENANCE OF PRESSING ROOM EQUIPMENT AND MACHINERY ($X^1/_2$)**

-DESCRIPTION-

Purpose

This module is designed to develop an understanding of and the skills associated with the maintenance and operating procedures of industrial pressing room machinery.

It is intended that this module is taught in conjunction with other related modules and forms part of a programme of study which should include complementary industrial experience.

It is aimed at those following a career in clothing machine engineering.

Preferred Entry Level

64002	Fundamentals of Technology: Mechanical
64003	Fundamentals of Technology: Electrical
2140010	Clothing Machining: Manufacturing Technology 1 (x 1/2)
84555	Plant Services: Steam
2140060	Maintenance of High Arm Lockstitch Blindstitch Machines (x 1/2)

Outcomes

The student should:

1. outline the principles of pressing plant layout and application of equipment used in the pressing room;

2. outline the methods of operation and the service requirements for a range of machines used in steam pressing, permanent pressing and fusing of specific garment parts;

3. service a range of pressing room equipment;

4. identify components, fittings and press clothing required for machine conversion for a given pressing/fusing application on a range of pressing machines;

5. diagnose and rectify a range of pressing/fusing machine faults to effect safe and correct operation.

Assessment Procedures

Acceptable performance in this module will be satisfactory achievement of all the Performance Criteria specified for each Outcome.

The following abbreviations are used below:

PC Performance Criteria
IA Instrument of Assessment

Note: The Outcomes and PCs are mandatory and cannot be altered. The IA may be altered by arrangement with SQA. (Where a range of performance is indicated, this should be regarded as an extension of the PCs and is therefore mandatory.)

OUTCOME 1 **OUTLINE THE PRINCIPLES OF PRESSING PLANT LAYOUT AND APPLICATION OF EQUIPMENT USED IN THE PRESSING ROOM**

PCs

(a) The identification of different types of finishing/pressing processes is correct for types of pressing/fusing machines.
(b) The identification of the materials, clothing, fittings and equipment is correct for specified operations.
(c) The identification of the advantages and disadvantages of pressing/fusing machines is correct.
(d) The identification of the time, pressure, temperature and vacuum alterations is correct for a given operation.

IA Objective Test

The student will be set an exercise consisting of objective items to test knowledge of the principles of pressing plant layout, and application of equipment used in the pressing room.

The exercise will consist of 15 questions based on the Performance Criteria and allocated as follows:

(a)	types of finishing/pressing processes	3
(b)	materials, clothing and fitting equipment	4
(c)	advantages and disadvantages	4

(d) time, pressure, temperature and vacuum operations 4

Satisfactory achievement of the Outcome will be based on all Performance Criteria being met. This will be demonstrated by the student producing at least 3 correct responses to each of (a), (b), (c) and (d).

OUTCOME 2 **OUTLINE THE METHODS OF OPERATION AND THE SERVICE REQUIREMENTS FOR A RANGE OF MACHINES USED IN STEAM PRESSING, PERMANENT PRESSING AND FUSING OF SPECIFIC GARMENT PARTS**

PCs

(a) The identification of the specific areas relating to steam, temperature and pressure control of the pressing action is correct for different types of pressing/fusing machines.
(b) The identification of pressing machine clothing and the factors to be considered is correct in terms relating to pressing operation.
(c) The outline of the effects of heat, time, pressure and vacuum is correct.

IA Restricted Response Questions

The student will be set an exercise consisting of restricted response questions to test knowledge of the methods of operation and the service requirements for a range of machines used in steam pressing, permanent pressing and fusing of specific garments.

The exercise will consist of 12 questions allocated as follows:

(i) the pressing action of a steam pressing machine; 3
(ii) the fusing action of a fusible pressing machine; 3
(iii) the clothing and materials required to achieve correct pressing results. 3
(iv) the pressing effect on materials in relation to time, heat and pressure 3

Satisfactory achievement of the Outcome will be based on all Performance Criteria being met. This will be demonstrated by the student producing at least 2 correct responses to each of (i), (ii), (iii) and (iv).

OUTCOME 3 **SERVICE A RANGE OF PRESSING ROOM EQUIPMENT**

PCs

(a) The adjustment and setting of the machine controls ensure correct timing and relationships according to manufacturer's specifications.

(b) The adjustment or replacement of clothing components produce correct pressing action to permit machines to press fabric to given pressing specifications.

(c) Working practices and procedures followed are safe.

IA Practical Exercise

The student will be set a practical exercise to test the application of knowledge and skills required to service a range of pressing room equipment.

The student will be required to service a machine making the necessary adjustments where appropriate. The service should include
changing of clothing and fittings.

The student will be required to carry out a basic pressing fusing operation demonstrating use of machine and equipment.

Satisfactory achievement of the Outcome will be based on all Performance Criteria being met.

OUTCOME 4 **IDENTIFY COMPONENTS, FITTINGS AND PRESS CLOTHING REQUIRED FOR MACHINE CONVERSION FOR A GIVEN PRESSING/FUSING APPLICATION ON A RANGE OF PRESSING MACHINES**

PCs

(a) The identification of fittings to be replaced is correct in terms of name and function.

(b) The identification of the components to substitute in order to accomplish an alternative operation is correct in terms of name and function.

(c) The identification of safety regulations pertaining to pressing machine components is correct for conversion of pressing/fusing applications.

IA Structured Question

The student will be set an exercise consisting of one structured question to test knowledge of the components, fittings and press clothing required for machine conversion for a given pressing/fusing application on a range of pressing machines.

The structured question will contain 6 sub-questions and should be based on the description of a pressing machine which has to be converted from one pressing/fusing application to another.

The question will be sub-divided in accordance with the Performance Criteria as follows:

(a) identification of fittings to be replaced 2
(b) identification of substitute components 2
(c) identification of safety regulations 2

Satisfactory achievement of the Outcome will be based on all Performance Criteria being met. This will be demonstrated by the student producing at least one correct response to each of (a) and (b) and 2 correct responses to (c).

OUTCOME 5 **DIAGNOSE AND RECTIFY A RANGE OF PRESSING/FUSING MACHINE FAULTS FOR CORRECT AND SAFE PRESSING/FUSING OPERATION**

PCS

(a) The diagnosis of faults is correct.
(b) The rectification of faults ensure safe and correct operation of the machine.
(c) The setting up and adjustment of the machine ensures safe and correct operation of future tasks.
(d) Working practices and procedures followed are safe.

IA Practical Exercise

The student will be set a practical exercise to test the application of knowledge and skills required to diagnose and rectify a range of pressing/fusing machine faults for correct and safe operation.

The exercise will consist of the student diagnosing and rectifying 4 faults which have been previously built in to the machine. These faults be selected from the following list:

clothing; temperature; pressure; steam; time and vacuum control; condensate; fusibles and face fabrics; mechanical problems relating to steam press; mechanical problem relating to fusing press; machine controls; garment make-up.

Satisfactory achievement of the Outcome will be based on all Performance Criteria being met for each of the 4 faults.

The following sections of the descriptor are offered as guidance.
They are not mandatory.

CONTENT/CONTEXT

Corresponding to Outcomes 1-5:

1. Recognition and selection of an appropriate room layout, machine type and equipment from the available range for given pressing/fusing applications.

   (a) Machines: purpose, special features; principles of operation; application.

   (b) Model garment range: shape and use.

   (c) Appropriate fabric types for chosen garment: - cottons; - worsted; - woollens; knitted; - linings, interlinings; pile fabrics;

   (d) Efficiency rating: type of pressing required by garment.

2. Recognition of the basic pressing production techniques, machines, work aids and processes for positioning, handling and pressing specifications of a simple garment and parts.

   Garment Operations:

   (a) underpressing operations;
   (b) top pressing operations (after garment construction);
   (d) steam/air finished operations;
   (e) steam table operations;
   (f) permanent pressing operations;
   (g) fusing operations.

   Steam Presses:

   (i) Types of head and buck.
   (ii) Machine Clothing.
   (iii) Pressing Factors.

   Fusing Presses - Introduction to basics of:

   (i) Machine types.
   (ii) Fusible interlinings.
   (iii) Fusible resin.

   Baking Ovens - permanent pressing:

3. Practice in removal and replacement of specified basic component assemblies eg. strainer, non-return (swing) valved etc. making adjustment to machine and vacuum controls, pressure
regulators etc. removal and replacement of machine clothing in order to achieve a given pressing/fusing operation.

4. Recognition and selection of appropriate components, fittings and clothing to demonstrate the ability to convert the machine for selected pressing/fusing operations or production situations.

   (a) operations: eg. under pressing; top (finish) pressing; interlining fuse pressing; special purpose pressing.

   (b) clothing to meet pressing requirements:

5. Diagnosis and rectification of faults (problems) with particular reference to:

   (a) Steam pressing: fabric shrinkage; fabric damage; inconsistency of pressing; clothing replacement; machine malfunction.

   (b) Fuse Pressing: temperature; cycle time; machine feed.

   Setting adjustments and testing machine for producing test samples, for pressing/fusing operations and production situations in order to demonstrate techniques of safe operation.

SUGGESTED LEARNING AND TEACHING APPROACHES

Safety, safe working practices, care and use of pressing equipment should be an integral part of all module activities.

This module should be presented in the pressing room/workshop where the tutor should carefully explain and demonstrate the various techniques using a programme of exercises related to a theme or vocational bias which will interest the student.

The student should follow an activity based learning approach to become familiar with the pressing/fusing machines in question. Students could work singly or in pairs.

In the initial stages the tutor should fully explain and demostrate each tool, gauge, operation or process. Terminology, and service manuals and principles relating to pressing/fusing machines, fittings, clothing, fabrics and interlinings should be displayed to assist the students with the exercises.

Student activities should be essentially centred on practical exercise assignments and the tutor would be expected to prepare precise briefs for each assignments exercise.

A set of completed exercises should be available for the students to relate and compare standards.

NOTE: Factory visits should be an integral part of this module.

© Copyright SQA 1991

09/02/98 JH/SH