-SQA-SCOTTISH QUALIFICATIONS AUTHORITY

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NATIONAL CERTIFICATE MODULE DESCRIPTOR

-Module Number- **0064417** **-Session-1986-87**

-Superclass- **VG**

-Title- **MACHINERY MAINTENANCE (x $^{1}/_{2}$)**

-DESCRIPTION-

Type and Purpose

A general module ($^{1}/_{2}$) which involves the maintenance of mechanical equipment relevant to a range of occupations. This module should serve students intending to progress to courses covering vehicles, plant, agricultural machinery, as well as providing an integrating element in a broad introduction to technology.

Preferred Entry Level

04020 Assembly Skills
04730 Fastening and Joining: Non-Thermal Methods

Learning Outcomes

The student should:

1. select and apply suitable machinery cleaning procedures in preparation for maintenance;
2. carry out routine lubrication and servicing of a range of machinery and equipment on a scheduled and Ad Hoc basis;
3. carry out routine adjustments to machinery;
4. complete maintenance schedules, work records, parts requisitions and communicate effectively;
5. know the comparative costs of alternative maintenance systems;
6. identify situations requiring further repair or maintenance work and report recommendations;
7. work in a safe and reliable manner and demonstrate a responsible attitude to the safety of others.

Content/ Context

Corresponding to the Learning Outcomes:

1. machinery cleaning procedures and materials.

2. lubricant recommendation literature. Lubricants and lubrication systems including filtration of lubricants and air.

3. machinery checks and adjustments, e.g. pressures, tensions, cables, cable and rod control linkages, clevises, toggles, clearances, etc.

4. maintenance schedules and records for planned and emergency maintenance. Machinery parts lists and parts requisitions. Machinery maintenance terminology.

5. comparative costs of routine and emergency maintenance including appreciation of costs of loss of use.

6. visual methods of checking components for wear or damage. Identification of dangerous situations. Methods of reporting recommendations.

7. safe working practices and use of safety equipment. An awareness of safety implications for others who may use equipment.

NOTE:

The level of work expected in this module is the periodic maintenance, adjustment and inspection as given in machinery service literature but excluding specialised adjustments or sharpening exclusive to specific machinery.

Suggested Learning and Teaching Approaches

Relating to the Learning Outcomes:

1,2 & 3 A student centred approach should be used with practical work on a range of machinery, such as vehicles, machine tools, implements, domestic equipment, factory plant, all in different states of repair and general condition, culminating in the complete cleaning, servicing and maintenance of machinery.

Where class members predominantly have a common vocational interest, the course content can be biased accordingly, but the transferability of skills must not be ignored.

4&5 Should involve the completion of work records,
preparation of parts requisitions and an appreciation of the costs of routine maintenance versus emergency repairs.

6. Should involve assignments to inspect and check the need for further work and report recommendations.

7. Should involve demonstrations of safe use of equipment and maintenance materials.

Assessment Procedures

All learning outcomes must be validly assessed.

The student must be informed of the tasks which contribute to summative assessment. Any unsatisfactory aspects of performance should, if possible, be discussed with the student as and when they arise.

Acceptable performance in the module will be satisfactory achievement of the performance criteria specified for each learning outcome.

The following abbreviations are used below:

LO Learning Outcome
IA Instrument of Assessment
PC Performance Criteria

LO1

IA Observation checklist.

PC The student consistently:

(a) selects suitable cleaning procedures for machinery;

(b) cleans machinery in preparation for maintenance.

LO2

IA Observation checklist.

PC The student correctly:

(a) selects correct lubricants for given application;

(b) completes a maintenance program.

LO3

IA Observation checklist.

PC The student correctly:

(a) identifies the need for routine adjustment to machinery components;

(b) carries out routine service adjustments.

LO4

IA Observation checklist.

PC The student correctly:

(a) completes a written record of maintenance and minor repairs;

(b) prepares a parts requisition.

LO5

IA Observation checklist.

PC The student correctly:

(a) assesses the cost of a maintenance programme.

LO6

IA Observation checklist.

PC The student correctly:

(a) identifies a machine which requires repair;

(b) identifies a machinery condition which influences safety;

(c) gives a clear report using appropriate terminology.

LO7

IA Observation checklist.

PC The student consistently:

(a) uses equipment in a safe manner;

(b) maintains a safe working area;

(c) shows an awareness of the safety of others.