

**-SQA-SCOTTISH QUALIFICATIONS AUTHORITY**

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**NATIONAL CERTIFICATE MODULE DESCRIPTOR**

**-Module Number- 0064464 -Session-1986-87**  
**-Superclass- VG**  
**-Title- HEAVY MOBILE PLANT AND PSV ELECTRICAL UNIT  
TEST AND RECLAMATION: ALTERNATORS**

**-DESCRIPTION-**

Type and Purpose A specialist module which enables the student to develop the skills and knowledge to overhaul and test heavy mobile plant and psv alternators.

Preferred Entry Level 04050 Introduction to Materials (1/2)  
04468 Mobile Plant Electrics 1: Introduction  
04702 Introductory Machining Skills

Learning Outcomes The student should:

1. assess the mechanical and electrical condition of components;
2. assess the viability and appropriateness in respect of reclamation;
3. apply reclamation procedures;
4. adjust and test units for satisfactory operation;
5. work safely.

Content/Context Corresponding to the Learning Outcomes:

1. methods of dismantling for inspecting and testing alternators from a range of manufacturers. Use of manuals, circuit diagrams and other relevant test material. Use of specialised test and measuring equipment. Possible causes of common faults.
2. influence of warranty and guarantee. Use of price lists, overhaul prices, wage rates, etc.

3. dismantling, reconditioning and assembly procedures.

Use of reconditioning equipment, lathes, drills, press, soldering, etc.

4. use of special test equipment such as test bench, c.r.o., etc.

Service adjustments and tests prior to installation.

5. safe practices when dealing with components and test equipment.

Suggested  
Learning and  
Teaching  
Approaches

This module should be taught in a practical situation using an adequate range of up-to-date alternators for reclamation.

Emphasis should be on the use of suitable equipment to test high output alternators and on the skills required to recondition alternators to the manufacturer's specification.

Manufacturers' service literature and an adequate supply of service spare parts should be available.

Demonstrations should be used in preference to lectures and students must work on a variety of makes and types of alternators.

The teaching approach should be designed to encourage the student to develop a safe, tidy diagnostic approach to the subject.

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 Assignment report.

PC The student:

- (a) correctly identifies the mechanical repairs required;
  - (b) correctly identifies the electrical repairs required;
  - (c) suggests possible causes for identified faults.
- LO2 IA Assignment report.
- PC The student correctly assesses the viability for reclamation.
- LO3 IA Observation checklist.
- PC The student correctly:
- (a) reconditions components;
  - (b) makes appropriate tests during assembly.
- LO4 IA Observation checklist.
- PC The student:
- (a) mounts unit for test correctly;
  - (b) carries out adjustment and test procedures correctly.
- LO5 IA Observation checklist.
- PC The student consistently:
- (a) wears all necessary safety clothing and equipment;
  - (b) behaves in a manner appropriate to the working environment;
  - (c) uses tools and equipment safely.