

-SQA-SCOTTISH QUALIFICATIONS AUTHORITY

**Hanover House
24 Douglas Street
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NATIONAL CERTIFICATE MODULE DESCRIPTOR

-Module Number- 0074454 -Session-1987-88
-Superclass- XS

-Title- MOBILE PLANT SUSPENSION 1 (x 1/2)

-DESCRIPTION-

Type and Purpose A specialist module which develops a basic knowledge of suspension systems used in a range of mobile plant and the skills associated with their servicing.

Preferred Entry Level 64416 Component Mounting and Vibration Control
64020 Assembly Skills
74449 Module Plant Wheels and Tyres 1
74442 Vehicles Configurations, Constructions and Identification

Learning Outcomes The student should:

1. identify the functions and layout of a range of suspension system components;
2. identify methods of wheel location;
3. inspect and repair suspension systems;
4. check general chassis alignment.

Content/ Context Safety regulations and safe working practices and procedures should be observed at all times.

Corresponding to Learning Outcomes 1-4:

1&2. Types of suspension used for:

- (a) rigid axles;
- (b) independent front suspension;
- (c) independent rear suspension.

Methods of locating road wheels against:

- (a) road bump loads;
- (b) braking/driving loads;
- (c) cornering loads.

Location and function of suspension components including anti-roll torsion bars.

- 3. Methods of inspecting and testing suspensions. Common suspension faults and repair procedures, eg. worn pivots, weak dampers, broken springs, etc.
- 4. Simple drop checks to ascertain alignment of chassis and front/rear wheels.

Suggested Learning and Teaching Approaches

This module should be taught in a workshop situation with adequate facilities for practical work and demonstrations on a suitable range of mobile plant.

All learning outcomes should involve a practical approach with the lecturer demonstrating the procedures and the student participating in workshop activities.

It is essential that any unsatisfactory aspect of safety should be discussed with the student throughout the module.

Assessment Procedures

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 Outcomes
 IA Instrument of Assessment
 PC Performance Criteria

LO1 IA Written/graphical exercise.

PC The student completes an exercise which correctly identifies by location and function the main components of three types of suspension systems.

- LO2 IA Identification exercise.
- The student correctly identifies methods of wheel location on three types of suspension systems.
- LO3 IA Practical exercise used in conjunction with an observation checklist on the inspection and repair of two types of suspension systems.
- PC The student correctly:
- (a) identifies two faults in two different suspension systems;
 - (b) carries out appropriate repairs for each fault;
 - (c) uses tools and equipment safely;
 - (d) wears all necessary safety clothing;
 - (e) behaves in a manner appropriate to the working environment.
- LO4 IA Assignment report which involves the testing of the chassis alignment and reporting on the results gained.
- PC The student correctly:
- (a) carries out a simple chassis alignment test;
 - (b) records the test results;
 - (c) interprets the results;
 - (d) uses tools and equipment safely;
 - (e) wears all necessary safety clothing;
 - (f) behaves in a manner appropriate to the working environment.