

-SQA-SCOTTISH QUALIFICATIONS AUTHORITY

**Hanover House
24 Douglas Street
GLASGOW G2 7NG**

NATIONAL CERTIFICATE MODULE DESCRIPTOR

-Module Number- 0074452 -Session-1987-88
-Superclass- XR

-Title- MOTOR CYCLE CONSTRUCTION 2: WHEELS, TYRES AND BRAKES

-DESCRIPTION-

Type and Purpose A specialist module for motor cycle mechanics dealing with the construction and repair of wheels, tyres and brakes

Preferred Entry Level 64451 Motor Cycle Construction 1: Frames, Steering and Suspension

Learning Outcomes The student should:

1. identify the construction of wheels and tyres and their application;
2. service wheels and wheel bearings;
3. remove, repair and refit tyres and tubes;
4. balance and true wheels to manufacturer's specifications;
5. identify, service and repair braking systems.

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

Corresponding to Learning Outcomes 1-5:

1. Types of wheel such as: pressed, spun, cast, wire spoked, composite, split rim, and their relationship to machine type and performance. Sources of information on interpretation of tyre code markings.

2. Wheel corrosion, rim damage and tyre mounting with particular reference to locking and security devices.

Procedures to dismantle, inspect and reassemble wheel bearings.
3. Procedures to remove and refit tyres and repair faults in tyres and tubes. Sources of information and legal requirements for tyres.
4. Method of balancing wheels and correcting run-out of wheel rims.
5. Types of braking systems operation such as: mechanical, hydraulic, anti-dive brake and suspension systems. Procedures for dismantling, inspecting, reassembling and testing brakes.

Suggested Learning and Teaching Approaches

This module should be taught in a workshop situation. Little formal lecturing is required although resource restrictions may require the use of visual aids to cover the possible variations.

Following introductory demonstrations, students should work on practical assignments to acquire a reasonable level of skill.

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 Outcome
IA Instrument of Assessment
PC Performance Criteria

LO1 IA Written/graphics exercise.

PC The student correctly:

- (a) identifies wheel construction;
- (b) identifies tyre construction;
- (c) gives the applications of types of wheels and tyres.

LO2 IA Practical exercise used in conjunction with an observation checklist involving the servicing of wheels and wheel bearings.

PC The student satisfactorily:

- (a) examines wheels for common faults;
- (b) services and adjusts wheel bearings;
- (c) wears all necessary safety clothing and equipment;
- (d) behaves in a manner appropriate to the working environment;
- (e) uses tools and equipment safely.

LO3 IA Practical exercise used in conjunction with an observation checklist involving the repair of tyres and tubes.

PC The student:

- (a) removes and refits tyres to two different wheel types;
- (b) repairs a tyre fault within the legal requirements;
- (c) repairs an inner tube fault;
- (d) wears all necessary safety clothing and equipment;
- (e) behaves in a manner appropriate to the working environment;
- (f) uses tools and equipment safely.

LO4 IA Practical exercise used in conjunction with an observation checklist involving the balancing and truing of wheels.

PC The student:

- (a) balances a wheel to an acceptable standard;
- (b) trues a spoked wheel within acceptable limits;
- (c) wears all necessary safety clothing and equipment;

- (d) behaves in a manner appropriate to the working environment;
 - (e) uses tools and equipment safely.
- LO5 IA (1) Practical exercise used in conjunction with an observation checklist involving the identification of brake systems and faults.
- PC The student correctly:
- (a) identifies the following types of brake systems:
 - (i) drum brake;
 - (ii) disc brake;
 - (iii) mechanical brake;
 - (iv) hydraulic brake;
 - (b) identifies the following faults in braking systems:
 - (i) a worn brake pad;
 - (ii) leaking hydraulic component;
 - (iii) scored drum/disc;
 - (c) wears all necessary safety clothing and equipment;
 - (d) behaves in a manner appropriate to the working environment;
 - (e) uses tools and equipment safely.
- LO5 IA (2) Practical exercise used in conjunction with an observation checklist involving the servicing of brake systems.
- PC The student carries out a service in accordance with manufacturers recommendations to:
- (a) a disc brake system;
 - (b) a drum brake system;
 - (c) wears all necessary safety clothing and equipment;

- (d) behaves in a manner appropriate to the working environment;
- (e) uses tools and equipment safely.

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