-SQA- SCOTTISH QUALIFICATIONS AUTHORITY

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NATIONAL CERTIFICATE MODULE DESCRIPTOR

-Module Number- **2210931** **-Session-1991-92**
-Superclass- **XS**

-Title- **VEHICLE BODY HYDRAULIC REPAIR EQUIPMENT ($X^1/_2$)**

-DESCRIPTION-

Purpose

This module is designed for those employed in the repair of accident damaged motor vehicles. It introduces the student to the use of portable hydraulic repair equipment not associated with body jigs.

It is part of a series of body repair modules which can be taken separately or may be joined to give an integrated programme covering the range of skills required by a light or heavy vehicle body repairer.

The standards contained in the module cover the work and the Transkill Assessments for RTITB Skills Test BR060 - Use of Hydraulic Realignment Tools - Pulling and Pushing Equipment. It also gives an introduction to the uses of hydraulic body repair equipment in preparation for RTITB Skills Tests BR050 - Use of Body Jigs, and BR052, BR054 - Aligning Vehicle and Replacement Panels.

Preferred	74498	Mobile Plant Bodyworking: Introduction
Entry Level	74442	Vehicle Configurations, Constructions and identification (x 1/2)
	74701	Introductory Workshop Skills
	2210901	Vehicle Body Repair: Materials, Tools, Equipment, Processes and Procedures.

Outcomes

The student should:

1. prepare for use, non-jig hydraulic equipment;

2. use hydraulic equipment to rectify damage;

3. measure damage rectification and realign components.

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 PREPARE FOR USE, NON-JIG HYDRAULIC EQUIPMENT

PCs

(a) Recognition of hydraulic body repair equipment components is correct by name and application.
(b) Visual examination of the equipment ensures its compliance with safety regulations.
(c) Checking and adjustment of hydraulic fluid reservoir levels is in accordance with manufacturers' instructions.
(d) Assembly of components is safe and secure.

IA Practical Exercise

The student will be presented with an exercise consisting of a series of practical tasks set in a workshop environment to test the application of knowledge and skills required in the selection and preparation of hydraulic equipment for specific tasks.

The tasks should be set, requiring the student to select and prepare for use, items of equipment suitable for 4 separate tasks.

Items of equipment to be included in the selection should include:

portable body dozers;
floor based systems;
hand and power operated pumps;
pressure hoses and couplings;
push/pull rams;
wedges;
clamps, bracket systems and fixing devices;
chains and chain locks;
air bags.

Satisfactory achievement of the Outcome will be based on all Performance Criteria being met. This will be demonstrated by the student selecting and preparing for use, equipment which is capable of completing at least 3 of the 4 tasks allocated.

OUTCOME 2 **USE HYDRAULIC EQUIPMENT TO RECTIFY DAMAGE**

PCs

(a) Selected fixing points are safe and secure.
(b) Operation of the equipment rectifies the damage.
(c) Working methods followed are in accordance with current safety requirements.
(d) Use of tools is appropriate to the task.

IA Practical Exercise

The student will be presented with an exercise consisting of a series of practical tasks set in a workshop environment to test the application of knowledge and skills required in the selection and preparation of hydraulic equipment for specific tasks.

The tasks should require the student to use hydraulic equipment to carry out the following operations:

(i) attach the equipment to suitable fixing points;
(ii) locate rams and clamps to:

- push;
- pull;
- spread;
- twist.

Satisfactory achievement of the Outcome will be based on all Performance Criteria being met. This will be demonstrated by the student satisfactorily using equipment to perform 3 of the above 4 operations.

OUTCOME 3 **MEASURE DAMAGE RECTIFICATION AND REALIGN COMPONENTS**

PCs

(a) Selection of measuring equipment is correct for the work to be measured.
(b) Recorded measurements are within the limits of accuracy permitted for the equipment being used.
(c) Comparison of the measurements taken with the data available ensures that rectification is within the specified limits for the task.

IA Practical Exercise

The student will be presented with an exercise consisting of a series of practical tasks set in a workshop environment to test the application of knowledge and skills required in the selection and preparation of hydraulic equipment for specific tasks.

The tasks should be set, requiring the student to select and prepare for use, items of equipment suitable for 4 separate tasks.

In measuring the degree of rectification, the student should utilise the following:

manufacturers' data, charts and diagrams;
comparative measurements;
trammels;
templates;
drop checks;
alignment gauges;
callipers.

Satisfactory achievement of the Outcome will be based on all Performance Criteria being met. This will be demonstrated by the student satisfactorily using equipment to perform 3 of the allocated 4 operations.

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

CONTENT/CONTEXT

Safety regulations and safe working practices must be emphasised and included in the instruction at all times.

SUGGESTED LEARNING AND TEACHING APPROACHES

It is recommended that the assessments for Outcomes 1, 2, 3 should be combined into a single set of practical assignments which require the student to demonstrate competence in all the Outcomes in the course of completing each assignment.

Outcomes 1-3 should be taught and assessed in a practical situation appropriate to the student's requirements and may be incorporated into a single overall project covering more than one SQA module.

The requirements of any Industry Body such as the RTITB Transkill scheme should be investigated for inclusion and assessment in this module.

09/02/98 JH/AM