



Unit and Assessment Specification

Unit title	Vessel Repair and Maintenance
SQA code	H4JK 04
SCQF level	4
SCQF credit points	9
SSC ref	Unit 9

History of changes

Publication date: June 2013

Version: 01

Version number	Date	Description	Authorised by

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Title	Vessel Repair and Maintenance	
Learning Outcomes		Assessment Criteria
The learner will:		The learner can:
1	Know how to read drawings and specifications for repair, maintenance and servicing of vessel hull and machinery.	<p>1.1 Read technical drawings and describe the information they contain: eg general layout and assembly; exploded and sectional views; circuit and wiring diagrams; detailed drawings, hydraulics and air systems.</p> <p>1.2 Describe specifications for repair and maintenance including manufacturers' recommendations.</p> <p>1.3 Identify and describe servicing frequencies for vessel machinery and ancillary systems.</p>
2	Know how to use engineering tools and equipment for repair, maintenance and servicing of vessel hull and machinery.	<p>2.1 Identify appropriate tools, methods, techniques and procedures for repair, maintenance and servicing activities.</p> <p>2.2 Safely and correctly use hand tools, portable power tools, temporary holding devices and working platforms for: sawing; drilling; assembling and joining; rectifying common defects; making good damaged components; making good surface appearances and finishes.</p> <p>2.3 Identify the paints, chemicals, lubricants and cleaning materials used for common maintenance tasks including: preparing surfaces; finishing surfaces; specific equipment, eg life saving and fire fighting equipment.</p> <p>2.4 Identify and describe the materials, procedures and processes used for servicing activities including: cleaning and anti-fouling; polishing; spray washing; component checking; quality checks.</p>

Learning Outcomes		Assessment Criteria	
The learner will:		The learner can:	
3	Know how to work in a safe manner when carrying out repair, maintenance and servicing activities.	3.1	Describe safe lifting, transporting loads and manual handling equipment and techniques, including the use of trolleys; skates and jacks; wall and overhead cranes; slings and pull lifts.
		3.2	Describe the use of personal protective equipment.
4	Know how to use composite materials for repair and maintenance.	4.1	Identify common types of damage that occurs to composite constructions, eg impact, erosion, scratches and gouges, water ingress, delamination, disband, degradation.
		4.2	Identify tools, machines and equipment used in working with composites.
		4.3	Describe the techniques and procedures used for wet lay-ups; spray; pre-prig and sandwich (foam and wood) construction.
		4.4	Describe safe storage and hazards associated with composites.

Additional information about the Unit
Unit purpose and aim(s)
The aim of the Unit is to provide the knowledge to carry out minor repair, servicing and maintenance activities on smaller vessel structures, machinery and fittings, and includes the use of adhesives, resins, plastics and composites.
Details of the relationship between the Unit and relevant national occupational standards (if appropriate)
Non pleasure vessels operating in inland and coastal waters NOS: N1 MNTB/Seafish NOS C31, C32.
Details of the relationship between the Unit and other standards or curricula (if appropriate)
Workshop Skills for Support Staff
Assessment requirements specified by a sector or regulatory body (if appropriate)
Assessment will be by a combination of the following methods — assignment; knowledge based testing; project work; presentation; practical demonstration; other, as agreed by the External Verifier.

Assessment (evidence) Requirements

The following evidence is required to demonstrate that learners have the appropriate level of knowledge to undertake Vessel Repair and Maintenance. All Learning Outcomes and Assessment Criteria must be achieved.

Written and/or recorded oral evidence produced either on or off-the-job is required for the following:

- ◆ Learning Outcome 1
- ◆ Learning Outcome 2 — Assessment Criteria 1, 3 and 4
- ◆ Learning Outcomes 3 and 4

Assessment evidence in the workplace or in an appropriate simulated environment is required for the following:

- ◆ Learning Outcome 2 — Assessment Criteria 2

This could be achieved through the observation of learners undertaking practical exercises.

An approved Maritime Skills Alliance (MSA) approved Training Record Book (TRB) should be used to record evidence of achievement.

Guidance on Instruments of Assessment

Assessment evidence can be generated using practical exercises and/or an approved Maritime Skills Alliance (MSA) approved Training Record Book (TRB).

Short answer written questions and/or oral interview could be used for the other Learning Outcomes and Assessment Criteria.