Competency Standards for Caribbean Vocational Qualifications (CVQ)

CCASR10907 Level I in Small Engine Repairs

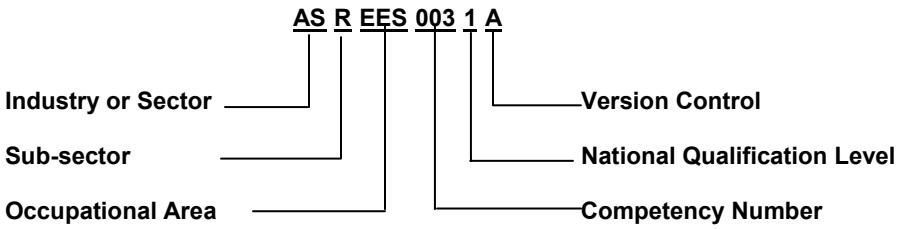
Unit Number	Unit Title	Mandatory/ Elective	Hours
ASRCOR0011A	Follow principles of Occupational Health and Safety (OH&S) in work environment	Mandatory	20
ASRCOR0021A	Undertake interactive workplace communication	Mandatory	20
ASRCOR0031A	Plan to undertake a routine task	Mandatory	5
ASRCOR0041A	Perform routine housekeeping duties	Mandatory	5
ASRCOR0051A	Use and maintain workplace tools and equipment	Mandatory	10
ASRCOR0061A	Use and maintain measuring devices	Mandatory	10
ASRCOR0071A	Draw and interpret sketches and simple drawings	Mandatory	20
ASRCOR0081A	Perform related computations - (basic)	Mandatory	20
ASRCOR0091A	Perform manual handling and lifting	Mandatory	5
ASRCOR0111A	Carry out bench work fitting operations	Mandatory	5
ASRSER0011A	Prepare for general servicing/repairing of small engines	Mandatory	20
ASRSER0021A	Remove, fit and adjust line trimming system components	Mandatory	10
ASRSER0031A	Service chain cutting systems	Mandatory	20
ASRSER0041A	Service drum cutting systems	Mandatory	20
ASRSER0051A	Service jet drive propulsion systems	Mandatory	20
ASRSER0081A	Repair propeller drive systems	Mandatory	20
ASRSER0091A	Service reciprocating cutting systems	Mandatory	20
ASRSER0101A	Service rotary cutting systems	Mandatory	20
ASRCOR0101A	Carry out basic mechanical cutting operations	Elective	20
ITICOR0011A	Carry out data entry and retrieval procedures	Elective	40
MEMFAB0151A	Prepare for oxyacetylene/metal arc welding processes	Elective	20
MEMFAB0061A	Perform manual heating and thermal cutting	Elective	20
MEMFAB0051A	Perform brazing and/or silver soldering	Elective	20
ASRSER0061A	Service post boring systems	Elective	20
ASRSER0071A	Service post hole digging systems	Elective	20
ASRSER0111A	Service and repair marine transmissions (outboard or stern drive)	Elective	20
ASRSER0121A	Service and repair marine transmissions (inboard)	Elective	20
ASRSER0162A	Repair faults in chain cutting systems	Elective	30
ASRSER0192A	Repair faults in reciprocating cutting systems	Elective	30
ASRSER0202A	Repair faults in rotary cutting systems	Elective	30
ASRSER0222A	Repair propeller drive systems	Elective	30
BSBSBM0012A	Craft personal entrepreneurial strategy	Elective	50

To achieve this qualification ALL Mandatory competency plus a minimum of two (2) Level one electives and one (1) Level two elective must be achieved.

Nominal Training Hours (Institutional Delivery) include total hours of Mandatory competencies and Electives selected.

Legend to Unit Code

Example: ASREES0031A



Key: COR - Mandatory; SER – Small Engine Repairs; MEM Metal Engineering and Maintenance; FAB – Fabrication; BSB - Business Services (Business); SBM -Small Business Management; ITI - Information Technology (Information)

ASRCOR0011A: Follow principles of Occupational Health and Safety (OH&S) in work environment

Competency Descriptor: This unit deals with the skills and knowledge required to effectively perform work activities to conform to Occupational Health and Safety requirements, and applies to all individuals working in the automotive service industry.

Competency Field: Automotive Service and Repairs

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Follow safe work practices	1.1 Work is carried out safely and in accordance with company policy and company procedures and industry requirements.
	1.2 Housekeeping is undertaken in accordance with company procedures.
	1.3 Responsibilities and duties of employees are understood and demonstrated in day-to-day actions.
	1.4 Personal protective equipment is worn and stored according to company procedures.
	1.5 All equipment and safety devices are used according to industry requirements and company/manufacturer's procedures/instructions.
	1.6 Safety signs/symbols are identified and followed as per instruction.
	1.7 All manual handling is carried out in accordance with industry requirements, company procedures and National Occupational Health & Safety guidelines.
	1.8 Occupational Health & Safety Commission guidelines demonstrated.
2. Report workplace hazards	2.1 Workplace hazards are identified during the course of work and reported to appropriate person according to standard operating procedures/factory act.

3.	Follow emergency procedures	3.1 Means of contacting the appropriate personnel and emergency services in the event of an accident are demonstrated.
		3.2 Emergency and evacuation procedure are understood and carried out when required.

RANGE STATEMENT

This Occupational Health and Safety (OHS) unit applies to safe working practices as applied to all automotive services workplaces. Competencies to be demonstrated must be associated with performance of duties and use of specialist skills. This unit and these standards do not cover the skills of emergency teams such as fire fighting, first aid officer etc .

Unsafe Situations may include but not limited to:

- sharp cutting tools and instruments
- electricity and water
- toxic substances
- damaged packing material or containers
- broken or damaged equipment
- inflammable materials and fire hazards
- lifting practices
- spillages
- waste and debris
- especially on floors
- ladders
- trolleys
- glue guns/burns

Safety responsibilities apply to:

- personal protection
- safe interactive work practices (dut y of care)
- Occupational Health and Safety (OHS) regulations
- National Environment and Planning agency (NEPA) regulations/guidelines

Quality Assurance requirements may include:

- working environment/fellow workers
- adverse weather conditions
- protection of work personnel
- protection of public

Personal protective equipment may include but is not limited to:

- overalls, safety glasses/goggles, hard hat cap
- dust masks/respirator, gum boots
- ear plugs/muffs

Emergency procedures include:

- fire fighting
- medical and first aid
- evacuation

EVIDENCE GUIDE

Competency is to be demonstrated by safely and effectively carrying out safe work practices within the range of variables statement relevant to the work orientation

(1) Critical Aspects of Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- demonstrate application of organizational policies and procedures including Quality Assur ance requirements where applicable
- carry out correct procedures prior to and during work activities
- safe and effective operational use of tools, plant and equipment
- carry out appropriate applications in accordance with regulatory and legislative requiremen ts

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- basic level of ability in speaking
- basic level in reading & writing English
- emergency procedures
- workplace and equipment safety requirements
- general knowledge of common automotive terminology
- working knowledge of safe manual/material handling requirements
- relevant guidelines, regulations and codes of practice
- company policy and reporting procedures

Skills
The ability to:

- work safely to instructions
- use tools and equipment safely
- select and use material equipment and tools to standards
- perform basic emergency procedures
- communicate effectively

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant product and manufacturing specifications
- any relevant codes, standards manuals and reference materials

(5) Method of Assessment

The candidate will be required to orally, or by other methods of communication:

- answer questions put by the assessor
- identify colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

This unit may be assessed on the job, off the job, or a combination of both. Aspects of this unit will need to be assessed in a work situation.

The context in which the OH & S principles are applied should be consistent with the individual's field of work. The competencies covered by this unit would-be demonstrated by an individual working alone or as part of a team. Assessment should be conducted in an environment that the individual is familiar with.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

ASRCOR0021A: Undertake interactive workplace communication

Competency Descriptor: This unit deals with the skills and knowledge required to effectively undertake interactive communication at the workplace, and applies to all individuals working in the automotive service industry

Competency Field: Automotive Service and Repairs

ELEMENT OF COMPETENCY	PERFORMQNCE CRITERIA
1. Communicate information about tasks, processes, events or skills	1.1 Information about tasks, processes, events or skills are communicated.
	1.2 Multiple operations involving several topics/areas are communicated.
	1.3 Listening is undertaken without continuous interruptions of the speaker.
	1.4 Questions are used to gain extra information.
	1.5 Correct sources of information are identified.
	1.6 Information is selected and sequenced appropriately.
	1.7 Verbal and written reporting undertaken where required.
	1.8 Communication is demonstrated in both famili ar and unfamiliar situations and to familiar and unfamiliar individuals and groups.
2. Take part in group discussion to achieve appropriate work outcomes	2.1 Responses sought and provided to others in the group.
	2.2 Constructive contributions are made in terms of the production process involved.
	2.3 Goals and aims are communicated.

RANGE STATEMENT

This unit covers competencies needed for situations where employees must collectively undertake a task eg: three or four assemblers co-operating to assemble a product, a trade's person who has to attend a service call, or a group of process workers who undertake a similar task in close proximity to each other.

Techniques that could be used as the subject of communication includes but is not limited to:

- sketches
- drawings
- charts and maps
- telephone
- sketches
- production schedules
- written machine or job instructions
- client instructions
- face to face
- signage
- memos
- work schedules/work bulletins
- written report

EVIDENCE GUIDE

Competency is to be demonstrated by the effective use of methods of communication relating to instructions, information sources and meeting procedures listed within the range statement relative to the work orientation.

(1) Critical Aspects of Evidence

This unit should be assessed in conjunction with other specialisation or core units and not in isolation. The assessment should be linked with performance of normal workplace activities where the competency covered by this unit is demonstrated concurrently with other core or elective competencies. The communication tasks may be related to any aspect of the job, interacting with team members, receiving instructions, reporting and any other activity that requires communication with individuals or groups.

During assessment the individual will:

- demonstrate safe working practices at all times
- demonstrate the ability to undertake interactive workplace communication
- communicate information about processes, events or tasks being undertaken to ensure a safe and efficient working environment
- use accepted motor vehicle repairs techniques, practices, processes and workplace procedures

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- basic level of ability in speaking
- basic level in reading (reading, interpreting and applying routine texts in the workplace)
- basic level in writing English (writing short routine texts using correct spelling, punctuation and grammar)
- basic numeracy(interpreting and conveying work place information)
- work place safety requirements the use of work schedules, charts, work bulletins and memos

Skills
The ability to:

- work safely to instructions - (writing, reading and understanding workplace documents) convey information in simple English to invoke correct actions - (conveying and receiving workplace information
- Basic numeracy means the ability to perform simple arithmetic using whole numbers applying the four basic rules of addition, subtraction, multiplication and division.
- The unit however does not refer to competence in English but in communication. English language ability should be professionally assessed

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant product and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to:

- answer questions put by the assessor
- identify colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Method of Assessment (Cont'd)

Evidence of competence may be obtained through a variety of methods including:

- observation
- oral questioning
- examination of assessee's portfolio/CV
- supporting statement from section manager, supervisor or equ ivalent
- examples of communication activities in which applicant has contributed, or worked on
- training courses on interactive communication
- examples of authenticated assessments and/or assignments from formal education courses
- self assessment reports
- simulation

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

(6) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. The communication activities undertaken should be consistent with the individual's field of work and be based on interaction with others related to workplace tasks and procedur es, tools, equipment, materials and documentation relevant to that field of work. The competencies covered by this unit should be demonstrated by an individual working alone or as part of a team. Assessment should be conducted in an environment that the individual is familiar with.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

ASRCOR0031A: Plan to undertake a routine task

Competency Descriptor: This unit deals with the skills and knowledge required to effectively plan to undertake a routine task and applies to all individuals working in the automotive service industry.

Competency Field: Automotive Service and Repairs

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Identify task requirements	1.1	Instructions as to procedures are obtained, understood and where necessary clarified.
		1.2	Relevant specifications for task outcomes are obtained, understood and where necessary clarified.
		1.3	Task outcomes are identified.
		1.4	Task requirements such as completion time and quality measures are identified.
2.	Plan steps required to complete task	2.1	Based on instructions and specifications provided, the individual steps or activities required to undertake the task are understood and where necessary clarified.
		2.2	Sequence of activities required to be completed, is identified in plan.
		2.3	Planned steps and outcome are checked to ensure conformity with instructions and relevant specifications.
3.	Review plan	3.1	Outcomes are identified and compared with (planned) objectives, task instructions, specifications and task requirements.
		3.2	If necessary, plan is revised to better meet objectives and task requirements.

RANGE STATEMENT

This unit applies to the activities related to planning to undertake a routine task. The task and associated planning activity are carried out under supervision. The plan may or may not be documented. The task involves one or more steps or functions carried out routinely on a regular basis. The planning activity does not require the exercise of judgement as to priorities or time limitations; it requires that precise information provided in the instructions be accurately followed, steps in the process be completed in the appropriate sequence and that the time limits specified are met.

Instructions may include but not limited to:

- standard operation sheets
- clear specifications and requirements
- quality and time allowances
- standard operating procedures

EVIDENCE GUIDE

Competency is to be demonstrated by the effective use of planning activities relating to instructions, information sources and meeting procedures listed within the range statement relative to the work orientation

(1) Critical Aspects of Evidence

This unit should be assessed in conjunction with other specialisation or core units and not in isolation. The assessment should be linked with performance of normal workplace activities where the competency covered by this unit is demonstrated concurrently with other core or elective competencies. The assessment of this competency may be associated with the assessment of core or elective units that require planning for undertaking a routine task in the individual's field of work.

During assessment the individual will:

- demonstrate safe working practices at all times
- demonstrate the ability to plan to undertake a routine task
- communicate information about processes, events or tasks being undertaken to ensure a safe and efficient working environment
- take responsibility for the quality of their own work
- perform all tasks in accordance with standard operating procedures
- perform all tasks to specification
- use accepted engineering techniques, practices, processes and workplace procedures

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- basic level of ability in speaking
- basic level in reading
- basic level in writing English
- basic numeracy
- task requirements
- work place operating procedures
- the use of work schedules, charts, work bulletins and memos

Skills
The ability to:

- work safely to instructions
- convey information in simple English to invoke correct actions
- apply quality procedures
- read and interpret simple drawings, and specifications
- plan a routine task
- undertake a routine task

Basic numeracy means the ability to perform simple arithmetic using whole numbers applying the four basic rules of addition, subtraction, multiplication and division. The unit however does not refer to competence in English but in communication. English language ability should be professionally assessed

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant product and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to orally, or by other methods of communication:

- answer questions put by the assessor
- identify colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

(6) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. The communication activities undertaken should be consistent with the individual's field of work and be based on interaction with others related to workplace tasks and procedures, tools, equipment, materials and documentation relevant to that field of work. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. Assessment should be conducted in an environment that the individual is familiar with.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

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Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

ASRCOR0041A: Perform routine housekeeping duties

Competency Descriptor: This unit deals with the skills and knowledge required to effectively perform routine housekeeping duties in a safe and environment friendly manner. It applies to individuals working in the automotive service industry.

Competency Field: Automotive Service and Repairs

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Plan, prepare and organise work area	1.1	OH&S requirements associated with application tasks and workplace environment are recognised and adhered to.
		1.2	Appropriate personal protective equipment are selected, correctly fitted and used.
		1.3	Site policies and procedures for tidying of work area and surrounds are applied.
		1.4	Tools and equipment for handling materials/goods, non-toxic waste, are selected and consistent with job requirements.
		1.5	Tools and equipment for handling materials/goods, non-toxic waste is checked for serviceability and any faults reported to supervisor.
2.	Correctly manual handle, sort and stack material	2.1	Common automotive materials are recognised and selected for sorting and stacking/stockpiling to supervisor's instructions and/or specifications.
		2.2	Handling characteristics of materials are identified and appropriate handling techniques applied.
		2.3	Specific handling requirements for hazardous materials are applied.
		2.4	Materials are stored, stacked/stockpiled and protected, clear of trafficways, so they are easily identified, retrieved and not damaged.
		2.5	Appropriate signage and barricades are erected where applicable to isolate stored materials from workplace traffic or access.
		2.6	Correct manual handling techniques are used.

3.	Prepare for mechanical handling of materials	3.1	Materials are stacked/banded for mechanical handling in accordance with type of material and plant/equipment to be used.
		3.2	Rigger is assisted with loading, unloading, moving, locating and/or installing materials.
		3.3	Materials are safely handled with assistance of pallet trolley, forklift or hoist.
4.	Handle and remove waste safely	4.1	Waste materials are handled correctly and safely according to OH&S and requirements of regulatory authorities.
		4.2	Hazardous material are identified for separate handling.
		4.3	Non-toxic materials removed using correct procedures.
		4.4	Dust suppression procedures are used to minimise health risk to work personnel and others.
5.	Clean up	5.1	Tools and equipment are cleaned, maintained, and stored.
		5.2	Equipment and consumable materials are maintained and stored correctly after use.
		5.3	Spills, waste, or other potential hazards are removed from floors.
		5.4	Waste materials are disposed of safely.
		5.5	Site is cleaned and cleared of debris and unwanted material.

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

The following variables may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts

Sources of information/documents

- site policy procedures for routine housekeeping practices
- company operating procedures
- customer service requirements
- industry/workplace codes of practice

Resources may include:

- types of tools
- equipment
- material

House keeping methods may include:

cleaning benches
sinks preparation areas walkways fixtures and other working surfaces

Protection of stacked/stored materials may include:

- covering
- tying or banding
- barricades
- signs
- locked away (hazardous materials)

Dust suppression procedures may include:

- spraying with water
- covering
- use of vacuum cleaner

Removal of materials to include proces ses of recycling and salvage where applicable.

OH&S requirements to be in accordance with (Statutory/National) legislation and regulations.

Work to be undertaken as part of a team or individually under supervision of appropriately certificated persons where applicable.

Reporting of faults may be verbal or written.

EVIDENCE GUIDE

Competency is to be demonstrated by the effective handling and storing/stacking of appropriate construction materials listed within the range of variables statement, relevant to the work orientation.

(1) Critical Aspects and Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations and National legislations applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of materials handling processes
- demonstrate safe and effective operational use of tools and equipment
- demonstrate safe application in the process of cleaning up
- interactively communicate with others to ensure safe and effective operations

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- workplace and equipment safety requirements including relevant codes and regulation
- hand tools and equipment
- materials
- materials handling
- quality Assurance
- range of communication mediums (verbal and non-verbal)

Skills
The ability to:

- work safely to instructions
- use hand and portable tools
- handle materials
- identify/select material
- measure
- communicate effectively
- dispose of material safely
- use disposal equipment and tools as required

(4) Resource Implications

The following resources should be made available:

- general materials and consumables relative to motor vehicle repairs processes
- plant and equipment appropriate to handling processes
- hand tools appropriate to handling processes
- suitable work area appropriate to motor vehicle repai r process
- OHSA information

(5) Method of Assessment

Competency shall be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be deter mined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

(6) Context of Assessment

Competency shall be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a t ask. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise informat ion	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the A ssessment Guidelines for advice on how to use the Critical Employability Skills.

ASRCOR0051A: Use and maintain workplace tools and equipment

Competency Descriptor: This unit deals with skills and knowledge required to competently use and maintain workplace tools and equipment of the automotive service trade, and applies to all individuals in the industry

Competency Field: Automotive Service and Repairs

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Use hand tools	1.1 Selected appropriate hand tools according to the task requirements.
	1.2 Hand tools are used to produce desired outcomes to job specifications which may include finish, tension, size or shape.
	1.3 Adhered to all safety requirements before, during and after use of hand tools.
	1.4 Unsafe or faulty tools are identified and marked for repair according to designated procedures.
	1.5 Undertook routine maintenance of tools, including hand sharpening according to standard operational procedures, principles and techniques.
	1.6 Hand tools are stored safely in appropriate location according to standard operational procedures and manufacturer's recommendations.
2. Use power tools	2.1 Appropriate power tools are selected according to the task requirements.
	2.2 Power tools used followed a determined sequence of operations which may include clamping, alignment and adjustment to produce desired outcomes to job specifications which may include finish, size or shape.
	2.3 All safety requirements are adhered to before, during and after use.
	2.4 Unsafe or faulty tools are identified and marked for repair according to designated procedures before, during and after use.

		2.5 Operational maintenance of tools is undertaken according to standard workplace procedures, principles and techniques.
		2.6 Power tools are stored safely in appropriate location according to standard workshop procedure and manufacturer's recommendations.
3.	Use equipment	3.1 Appropriate equipment is selected according to the task requirements.
		3.2 Equipment used followed a determined sequence of operations.
		3.3 All safety requirements are adhered to before, during and after use.
		3.4 Unsafe or faulty equipment are identified and marked for repair according to designated procedures before, during and after use.
		3.5 Equipment is regularly checked against manufacturer's recommendations to ensure safe operating condition.
		3.6 Equipment is stored safely in appropriate location according to standard workshop procedure and manufacturer's recommendations.

RANGE STATEMENT

Work undertaken under supervision or in a team environment using predetermined standards of quality, safety and workshop procedures involving the use of various hand tools for applications, maintenance tasks and the finishing of items or components metallic and non-metallic material to size and shape using engineering principles, tools, equipment and procedures.

Hand tools may include but not limited to:

- hacksaws
- hammers
- punches
- screwdrivers
- sockets
- wrenches
- scrapers
- chisels
- gouges
- wood planes
- files of all cross-sectional
- shapes and types

Equipment may include but not limited to:

- special equipment for removal/adjustment
- plastic repair equipment
- sealing equipment
- heating equipment
- vehicle cleaning equipment
- fuel injector cleaners
- brake and drum lathes
- ignition module test instruments

Power tools may include but not limited to electric or pneumatic:

- drills
- grinders
- jigsaws
- nibblers
- cutting saws
- threading machine
- sanders
- planers
- routers
- pedestal drills
- pedestal grinders

Applications may include power tools used for:

- adjusting
- dismantling
- assembling
- finishing
- cutting
- scraping
- threading
- cleaning
- lubricating
- tightening
- simple tool repairs
- hand sharpening
- adjustments

Applications may include hand tools used for:

- adjusting
- dismantling
- assembling
- finishing
- cutting
- scraping
- cleaning
- lubricating
- tightening
- simple tool repairs
- hand sharpening
- adjustments

Applications may include equipment used for:

- adjusting
- dismantling
- assembling
- finishing
- cutting
- scraping
- cleaning
- lubricating
- tightening
- simple tool repairs
- hand sharpening
- adjustments

EVIDENCE GUIDE

Competency is to be demonstrated by the safe and effective use and maintain workplace tools and equipment listed within the range of variables statement relevant to the work orien tation.

(1) Critical Aspects of Evidence

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with the use of hand tools or other units requiring the exercise of the skills and knowledge covered by this unit.

During assessment the individual will:

- demonstrate safe working practices at all times
- demonstrate the ability to use hand tools
- take responsibility for the quality of their own work
- plan tasks in all situations and review task requirements as appropriate
- perform all tasks in accordance with standard operating procedures
- perform all tasks to specification
- use accepted motor vehicle techniques, practices, processes and workplace pr ocedures

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- workplace and equipment safety requirements and OH&S guidelines
- work shop procedures
- technical applications
- hand tools related to auto service and repairs
- power tools related to auto service and repairs
- equipment related to auto service and repairs
- materials/consumables/motor vehicle handling whilst operating tools and equipment

Skills
The ability to:

- work safely to instructions
- apply appropriate hand-eye co-ordination in the use of tools and equipment
- handle/hold materials/consumables/motor vehicle during operation of tools and equipment
- select appropriate tools and equipment for usage
- communicate effectively
- use tools/equipment correctly

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant product and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to orally, or by other methods of communication:

- answer questions put by the assessor
- identify colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

This unit may be assessed on the job, off the job, or a combination of both. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency requ ired to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills

ASRCOR0061A: Use and maintain measuring devices

Competency Descriptor: This unit deals with the skills and knowledge required to effectively measure and maintain measuring devices, and applies to individuals working in the automotive service industry.

Competency Field: Automotive Service and Repairs

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Use a range of devices to measure/determine dimensions or variables	1.1 Selected appropriate device or equipment to achieve required outcome.
	1.2 Used correct and appropriate measuring technique.
	1.3 Measured accurately to the finest graduation of instrument, as appropriate to field or area.
2. Maintain measuring devices	2.1 Undertook routine care and storage of devices to manufacturer's specification or standard operating procedure.
	2.2 Check and makes routine adjustments to devices eg "zeroing".

RANGE STATEMENT

This unit applies to work undertaken in the field, workstation or workshops. Work can be undertaken under supervision or part of team environment. This unit covers measurement skills requiring straightforward application of the measuring device and may utilise the full range of graduations of measuring device.

Measuring devices may include but not limited to:

- verniers
- feeler gauges
- pressure gauges
- squares
- levels
- micrometers
- dial indicators
- thermometers
- measuring tapes
- protractors

Measurements undertaken may include but not limited to:

- length /width/depth
- roundness
- squareness
- flatness angle
- angles
- clearances
- measurements that can be read off analog, digital or other graduated device
- plumbness

Electrical/electronic devices used are those not requiring the connection or disconnection of circuitry. Measurements may include metric and imperial measurement. All measurements undertaken to standard operating procedures. Adjustment of measuring devices is through external means and includes zero and linear adjustment.

EVIDENCE GUIDE

Competency is to be demonstrated by the effective use and maintenance of measuring devices in accordance with the range listed in the range of variables statement, relevant to the work orientation.

(1) Critical Aspects of Evidence

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling recording and reporting associated with the use of graduated measuring devices or other units requiring the exercise of the skills and knowledge covered by this unit.

During assessment the individual will:

- demonstrate safe working practices at all times
- demonstrate the ability to use and maintain measuring devices
- communicate information about processes, events or tasks being undertaken to ensure a safe and efficient working environment
- take responsibility for the quality of their own work
- perform all tasks to specification
- use accepted motor vehicle repairing techniques, practices, processes and workplace procedures

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- comparison devices
- comparison measurements
- comparative measurements
- electrical/electronic devi ces
- basic measuring devices
- reading
- writing English
- basic numeracy

Skills
The ability to:

- follow safely to instructions
- use power tools and hand tools
- use measuring devices
- adjust measurements
- handle materials
- select material
- apply quality assurance

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant product and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to orally, or by other methods of communication:

- answer questions put by the assessor
- identify colleagues who can be approached for the collection of competency e vidence where appropriate
- present evidence of credit for any off -job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including req uired knowledge.

(6) Context of Assessment

Competency shall be assessed on the job, off the job or a combination of both in accordance with workplace procedures.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency r equired to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills

ASRCOR0071A: Draw and interpret sketches and simple drawings

Competency Descriptor: This unit deals with the skills and knowledge required to effectively draw and interpret sketches and simple drawings, and applies to all individuals working in the automotive service industry.

Competency Field: Automotive Service and Repairs

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Prepare freehand sketch	1.1	Sketch is correctly and appropriately drawn.
		1.2	Sketch depicted object or part.
		1.3	Dimensions are obtained correctly.
		1.4	Dimensions are shown clearly.
		1.5	Instructions are shown clearly.
		1.6	Base line or datum points are indicated.
2.	Interpret details from freehand sketch	2.1	Components, assemblies or objects are recognised as required.
		2.2	Dimensions identified are appropriate to field of employment.
		2.3	Instructions are identified and followed as required .
		2.4	Material requirements are identified as required .
		2.5	Symbols are recognised as appropriate in sketch.
3.	Select correct technical drawing	3.1	Drawings are checked and validated against job requirements or equipment.
		3.2	Drawing version are checked and validated.
4.	Identify drawing requirements	4.1	Requirements and purpose of drawing are determined from customer and/or work specification and associated documents.
		4.2	Identified and collected all data necessary to produce the drawing.
		4.3	Drawing requirements are confirmed with relevant personnel and timeframes for completion established.

5. Prepare or make changes to drawing	5.1 Selected drafting equipment appropriate to the drawing method chosen.
	5.2 Applied drafting principles to produce a drawing that is consistent with standard operating procedures within the enterprise.
	5.3 Undertook all work safely and to prescribed procedure.
	5.4 Completed drawing is approved in accordance with standard operating procedures.

RANGE STATEMENT

Technical drawing interpretation is applied to any of the full range of automotive maintenance disciplines.

Technical drawings may utilise any of the following techniques :

- perspective
- exploded views
- hidden view

Drawings are to be provided to industry Standards and/or their equivalents from the full range of engineering disciplines.

Standard industry symbols or equivalent and are to be recognised in the field of employment.

Alphabet of line:

- object line
- hidden line
- centre line
- section line
- dimension
- extension line
- cutting line
- short break line
- phantom line

Drawing instruments and supplies:

- drafting kit/instruments
- blue prints
- drawings/modules/photographs

Multi-view (orthographic 2-D) drawings:

- full scale (1:1) orthographic 3-view drawing using third angle projection with top, front and right side view – show all hidden features and centrelines

Measurement systems:

- inch/foot system
- metric(SI) system

Geometric construction to include:

- circles
- regular polygons with four, seven and eight sides
- pentagon inscribed within measured circle
- ellipse
- triangles with specified angles
- arcs thru three points; tangent to two circles

Dimension reading:

- dimensioning styles and methods: co-ordinate, linear/datum
- dimensioning 2-D drawing
- dimensioning complex shapes: spheres, cylinders, tapers, pyramids

Pictorial (3-D) drawing to include:

- isometric corner with left and right side lines each 30 degrees up from horizontal and third line at a vertical, with all three lines joi ning in a common intersection
- full scale (1:1) basic isometric drawing

EVIDENCE GUIDE

Competency is to be demonstrated by developing and effectively reading and interpreting simple drawings and sketches to locate or identify specified features or specifications in accordance with the performance criteria and the range listed within t he range statement.

(1) Critical Aspects of Evidence

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with the drawing and interpretation of exercise of the sketches or other units requiring the skills and knowledge covered by this unit.

During assessment the individual will:

- demonstrate the ability to identify, understand, read and interpret various types of technica l drawings
- demonstrate the ability to identify alphabet of lines, scales, lettering, dimensions, symbols, abbreviations and key features
- demonstrate the ability to identify title panel and reference date of drawings
- take responsibility for the quality of their own work;
- perform all tasks in accordance with standard drafting procedures;
- use accepted engineering techniques, practices, pro cesses and workplace procedures

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- types and use of drawing instruments and supplies
- identification of alphabet of lines, line type variation, order of usage and application on drawings
- types of scale and proportion and how they are used for measurement
- symbols, dimensions and terminology
- types of drawings and their applications

Skills
The ability to:

- estimate measurements
- read and interpret simple drawings
- draw sketches and simple drawings
- measure accurately
- communicate effectively

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant product and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to:

- answer questions put by the assessor
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

(6) Context of Assessment

Competency should be assessed in a classroom environment in accordance with work practices and industry procedures.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employabilit y Skills.

ASRCOR0081A: Perform related computations – (basic)

Competency Descriptor: This unit deals with the skills and knowledge required to perform basic computations and effectively carry out measurements of work to required tolerance, and applies to all individuals working in the automotive service industry.

Competency Field: Automotive service and repairs

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Applies four basic rules of calculation	1.1 Performed simple calculations using the four basic rules, addition, subtraction, multiplication and division.
	1.2 Performed simple calculations involving length, perimeter, angles, area and volume.
2. Performs basic calculations involving fractions and decimals	2.1 Performed simple calculations involving fractions and mixed numbers using four basic rules.
	2.2 Performed simple calculations involving decimal fractions and mixed numbers using four basic rules.

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

The following variables may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts

Computations performed in an appropriate application for the industry in which the person is working. Skills may be demonstrated in relation to:

- measurement
- statistical application
- ratio and proportion
- estimation
- calculations with fractions and decimals
- interpretation of drawings
- interpretation of diagrams
- interpretation of mathematical statements and formulae
- interpretation of numbers and arithmetic operations

Basic numeracy skills below those described in this unit are not covered in these standards and are assumed to be held on entry to the industry. Basic numeracy means the ability to:

- perform simple arithmetic using whole numbers
- apply the four basic rules of:
  - addition
  - subtraction
  - multiplication
  - division

Calculations may be performed using:

- pen
- paper
- calculator
- protractor

This unit applies to simple projects applicable to:

- Service
- installation
- maintenance and repairs

EVIDENCE GUIDE

Competency is to be demonstrated by the effective calculation of measurements and calculation of materials in accordance with range of variables statement relevant to the work orientation.

(1) Critical Aspects of Evidence

During assessment the individual will:

- take responsibility for the quality of their own work
- perform computations in accordance with standard principles
- apply the four basic rules of calculations
- performs basic calculations involving fractions and decimals
- perform computations accurately
- use accepted motor vehicle repair techniques, practices, pr ocesses and workplace procedures

All must be associated with the calculations and computations being performed or other units requiring the exercise of the skills and knowledge covered by this unit.

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- drawings and specifications
- basic operations in simple geometry,
- measurement and calculations
- costing relative to the automotive trade processes
- numbers and arithmetic operations
- calculations with fractions and decimals
- estimation and measurement
- percentages (some applications)
- ratio and proportion (some applications)
- basic statistics (data, tables, graphs and sales)
- mathematical statements and formulae

Skills
The ability to:

- read and interpret drawings
- measure and calculate manually
- record measurements
- operate electronic calculating devices
- communicate effectively

(4) Resource Implications

The following are required:

- a workplace or simulated workplace
- relevant documentation, such as enterprise or sample records, invoices, statements, stock records, job cards, repair quotations, personnel records, time sheets, supply quotations
- equipment for calculations, such as calculators, adding machines or computers
- a qualified workplace assessor

(5) Method of Assessment

The candidate will be required to orally, or by other methods of communication:

- answer questions put by the assessor
- present evidence of credit for any off -job training related to this unit

Assessor must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

All tasks involved must be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team the assessment environment should not disadvantage the candidate.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

ASRCOR0091A: Perform manual handling and lifting

Competency Descriptor: This unit deals with the skills and knowledge required to effectively manually handle materials as applies to individuals working in the automotive service industry.

Competency Field: Automotive Service and Repairs

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Lift materials manually	1.1 Material weight is determined correctly utilising most appropriate technique.
	1.2 Lifting techniques are undertaken to safe work standards and standard operating procedures.
2. Move/shift materials manually	2.1 Appropriate equipment is selected where required.
	2.2 Material is placed safely and securely on moving equipment.
	2.3 Material is relocated ensuring safety of personnel and security of material.
	2.4 Material is unloaded from moving equipment and placed in a safe and secure manner.

RANGE STATEMENT

Work undertaken under supervision or in a team environment. Material weight is determined utilising scales or interpreting signage. Maximum manual lifting weight limited to safe work standards. All work and work practices undertaken to regulatory and standard requirements and standard operating procedures where applicable.

Moving/shifting equipment may include but not limited to:

- hand trolleys
- wheelbarrows
- motorised/hand pallet trucks (not sit on),
- hand carts
- dedicated production or process lifting equipment
- baskets
- spreader bars
- cradles or the like attached to lifting equipment
- rope

EVIDENCE GUIDE

Competency is to be demonstrated by safely and effectively manually handling materials in accordance with the range listed within the range of variables statement.

(1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organizational policies and procedures including Quality Assurance requirements
- adopt and carry out correct procedures prior to handling materials
- demonstrate safe and effective operational use of lifting equipment, tools, and attachments
- demonstrate correct procedures in manual handling
- give particular attention to safety and elimination of hazards
- demonstrate safe handling of material
- interactively communicate with others to ensure safe operations
- demonstrate effective handling technique to produce designed outcome

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling recording and reporting associated with manual handling or other units requiring the exercise of the skills and knowledge covered by this unit.

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- workplace and equipment safety requirements including relevant OH&S guidelines and regulations
- basic reading
- basic numeracy
- material classification
- manual handling technique(s)/methods
- handling processes
- material identification, transportation and storage
- handling tools and equipment
- materials preparation
- manual handling
- weight determination
- drawings, sketches, signage and instructions

Skills
The ability to:

- work safely to instructions
- communicate effectively
- interpret related drawings signage and instructions
- use handling tools and equipment
- identify/select material
- identify/select handling method
- handle material, tools and equipment
- determine weights
- identify/select materials relative to transportation and storage methods
- manual handle material/equipment efficiently

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to orally, or by other methods of communication:

- answer questions put by the assessor
- identify colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

ASRCOR0111A: Carry out bench work fitting operations

Competency Descriptor: This unit deals with the skills and knowledge required to effectively carry out bench work fitting operations as applies to individuals working in the automotive services industry.

Competency Field: Automotive Services and Repairs

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Select and set up forming/shaping equipment for a specific operation	1.1 Most appropriate tools and equipment are selected.
	1.2 Equipment is correctly set up and adjusted for operation.
	1.3 Allowances for shrinkage, thickness are correctly made.
2. Operate forming/shaping equipment	2.1 Machine is safely started up and shut down.
	2.2 Material and safety guards are correctly positioned.
	2.3 Equipment is correctly operated and adjusted.
3. Form and shape material	3.1 Material is levelled, straightened, rolled, pressed or bent to specifications/drawings.
	3.2 Correct hot or cold forming procedures are followed.
	3.3 Final form/shape is checked for compliance to specification and adjusted as necessary to standard operating procedure.

RANGE STATEMENT

Work may be undertaken under supervision or as part of a team. P redetermined standards of quality and safety are observed and work is carried out following standard operating procedures.

A wide range of shapes and products are formed which may include but not limited to:

- pipe-work chamfers
- cylinders
- cones
- angles
- “square to round" "transitions"
- "all forms of tubular shapes
- reticulation pipe-work, mufflers et

Forming, shaping and bending operations may be conducted on:

- plate
- section or sheet
- tube
- pipes
- components

A variety of tools and equipment may be used including

- presses
- shapers
- vices
- benders
- drop hammers

Materials may include:

- ferrous and non ferrous
- non-metalic substances

EVIDENCE GUIDE

Competency is to be demonstrated by safely and effectively undertaking fabrication, forming, bending and shaping operations in accordance with the range listed within the range of variables statement.

(1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety re gulations applicable to workplace operations
- show compliance with organizational policies and procedures including Quality Assurance requirements
- adopt and carry out correct procedures prior to undertaking fabrication, forming, bending and shaping processes
- demonstrate correct procedures in setting up
- demonstrate safe and effective operational use of tools, plant and equipment
- forming, bending and shaping equipment
- give particular attention to safety and elimination of hazards
- demonstrate safe handling of m aterial and tools
- interactively communicate with others to ensure safe operations
- demonstrate effective fabrication, forming, bending and shaping technique to produce designed outcome

This unit could be assessed in conjunction with any other units addres sing the safety, quality, communication, materials handling, recording and reporting associated with the forming and shaping of fabricated components or other units requiring the exercise of the skills and knowledge covered by this unit.

(2) Pre-requisite Relationship of Units

- ASRCOR0011A Follow principles of occupational health and safety (OH&S) in work environment
- ASRCOR0071A Draw and interpret sketches and simple drawing
- ASRCOR0051A Use and maintain workplace tools and equipment

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- workplace and equipment safety requirements including relevant OH&S guidelines and regulations
- fabrication, forming, bending and shaping technique
- fabrication, forming, bending and shaping equipment
- hand tools and equipment
- materials /consumables relative to fabrication, forming, bending and shaping procedures
- materials preparation
- manual handling
- measurement
- technical drawings, sketches and instructions

Skills
The ability to:

- work safely to instructions
- interpret related drawings and instructions
- use power tools and hand tools
- select material and equipment
- measure relative to fabrication, forming, bending and shaping processes
- communicate effectively
- fabricate, form, bend and shape efficiently

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant product and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to:

- answer questions put by the assessor
- identify colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. The competencies covered by this unit would be demonstrated by an individu al working under supervision or as part of a team. The assessment environment should not disadvantage the candidate .

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines fo r advice on how to use the Critical Employability Skills.

ASRSER0011A: Prepare for general servicing/repairing of small engines

Competency Descriptor: This unit deals with the skills and knowledge required to effectively prepare for general servicing/repairing of small engines as applies to individuals working in the automotive services industry.

Competency Field: Small Engine Repairs

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Plan and prepare for general servicing, repairing of small engines	1.1	Servicing is planned and prepared to ensure OH&S policies and procedures are followed.
		1.2	The work is appropriately sequenced in accordance with requirements.
		1.3	Appropriate personnel are consulted to ensure the work is co-ordinated effectively with others involved on the work site.
		1.4	Tools and consumables are checked against job requirements.
		1.5	Motor vehicle to be serviced/repaired is determined from job requirements.
		1.6	Materials necessary to complete the work are obtained in accordance with established procedures.
		1.7	Tools, equipment and testing devices needed to carry out the servicing/repair work is obtained in accordance with established procedures.
		1.8	Tools, equipment and testing devices are checked for correct operation and safety.
2.	Prepare equipment selected for servicing/repair work	2.1	Activities for equipment preparation are identified from specifications or supervisor's instructions.
		2.2	Equipment preparation is carried out to satisfy requirements of servicing/repairing process.
3.	Prepare material/consumables selected for servicing/repair work	3.1	Activities for material/consumables usage are identified from specifications or supervisor's instructions.
		3.2	Material preparation is carried out to satisfy requirements of servicing/repairing process.

4. Prepare work area suitable for general repairs/servicing	4.1 Activities to be carried out in work area are identified from type of repairs/servicing and access to area.
	4.2 Work area is prepared for servicing/repairing process according to supervisor's instructions.
5. Set up tools, plant and equipment appropriate for servicing/repair process	5.1 Regular tools/measuring devices suitable for application process is identified to job requirements.
	5.2 Regular tools/measuring devices are set up safely and effectively to carry out processes where applicable.

RANGE STATEMENT

This competency standard applies to the following and should be contextualized under supervision to the qualification to which it is being applied:

Light motor equipment, plant, motorcycles and marine on 2 stroke spark ignition and 2 stroke compression ignition engines

Sources of information/documents may include:

- manufacturer specifications
- company operating procedures
- industry/workplace codes of practice
- product manufacturer specifications
- customer requirements

Resources may include:

- hand tools, power tools
- precision measuring equipment, lifting and supporting equipment
- lubricant dispensing equipment

Consumables may include:

- appropriate type and grade engine oil, coolant and other liquids

OH&S practices must abide by:

- Industry standards/OH&S guidelines

Equipment may include:

- trimming equipment
- chain cutting equipment
- drum cutting equipment
- jet drive propulsion equipment
- propeller drive equipment
- reciprocating cutting equipment
- rotary cutting equipment
- hole boring equipment

Methods may include:

- removal
- refitting
- testing and adjusting
- servicing/repairing

Methods should be applied under normal operating conditions.

Work activities may include:

- preparation for
- general preventative maintenance
- oil /filter changes
- adjustments to components
- repairs to components/accessories
- inspection/cleaning activities
- troubleshooting activities
- major service /repairs (equipment overhaul)

EVIDENCE GUIDE

It is essential that competence is fully observed and there is the ability to transfer the competency to changing circumstances and to respond to unusual situations in the critical aspects of preparing for general servicing/repairing of small engine.

(1) Critical Aspects of Evidence

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with the servicing of small engines and/or engine components or other units requiring the exercise of the skills and knowledge covered by this unit.

During assessment the individual will:

- demonstrate safe working practices at all times
- demonstrate the ability to prepare for servicing/repairing of small engine
- communicate information about processes, events or tasks being undertaken to ensure a safe and efficient working environment
- take responsibility for the quality of their own work
- plan tasks in all situations and review task requirements as appropriate
- perform all tasks in accordance with standard operating procedures
- perform all related tasks to specification
- use accepted service repair techniques, practices, processes and workplace procedures

(2) Pre-requisite Relationship of Units

- ASRCOR0011A Follow principles of occupational Health and safety in work environment
- ASRCOR0031A Plan a routine task
- ASRCOR0041A Perform routine housekeeping duties

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- service procedures
- equipment/component safety requirements
- work activities related to servicing/repairing of motor vehicle
- identify types of engines and components
- personal safety requirements
- relevant industry safety precautions
- basic communication techniques
- basic computation skills

Skills
The ability to:

- access interpret and apply technical information
- use relevant tools and equipment safely
- service small engines and/ or associated components
- apply personal safety requirements

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant operating and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required:

- answer questions put by the assessor
- identify supervisors/colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge .

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

The underpinning knowledge and skills may be assessed on or off-the-job or a combination of both.

The assessment of practical skills must take place only after a period of supervised practice and repetitive experience.

If workplace conditions are not available, assessment in simulated workplace conditions is acceptable.

The prescribed outcome must be able to be achieved without direct supervision.
The competency should be assessed within the context of the qualification being sought.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills

ASRSER0021A: Remove, fit and adjust line trimming system components

Competency Descriptor: This unit identifies the skills, knowledge and attributes required to remove, fit and adjust line trimming system components fitted to brush cutters and lawn edgers as required by the industry.

Competency Field: Small Engine Repairs

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Determine customer requirements	1.1 Customer requirements and equipment specifications are checked, following workplace procedures.
	1.2 Customer is advised of implications and costs.
	1.3 Availability of line trimming system components, equipment, facilities and qualified personnel is determined.
	1.4 Appropriate customer release to proceed with repair is obtained.
	1.5 Line trimming system components are checked for suitability of purpose.
2. Remove and fit line trimming system components	2.1 Task sequence is planned to include testing and checking processes.
	2.2 Tools are selected to meet job requirements and checked to ensure they are in good working order.
	2.3 Components are removed as planned and work checked at designated points.
	2.4 Components are fitted and adjusted to line trimming system specifications and customer requirements.
	2.5 The line trimming system is operated through full operating range and operation checked against specifications and customer needs.
3. Return line trimming system to customer service	3.1 Workplace records are completed, including relevant warranty information.
	3.2 Customer report is provided which includes all relevant information on replacements.

		3.3 Use and care of equipment and warranty requirements are explained to the customer.
		3.4 Customer concerns are addressed with courtesy.
4.	Clean up area	4.1 All waste material is removed and disposed of.
		4.2 Area related to work activities is cleaned.
		4.3 Tools and equipment are cleaned, maintained and stored.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

The following variables may be present with training and assessment depending on the work situation , needs of the candidate, accessibility of the item, and local industry and regional contexts.

Resources may include:

- general workshop equipment
- equipment fitted with a line trimming system
- area and equipment for safe testing of line trimming systems
- personal protective equipment
- line trimming system components
- equipment stands
- air tools
- exhaust gas extraction system

Sources of information/documents may include:

- manufacturer specifications
- enterprise operating procedures
- product manufacturer specifications
- customer requirements
- industry/workplace codes of practice

OH&S practices must abide by:

- industry standards
- OH&S legislation/guidelines
- enterprise standards

This competency standard applies to:

- outdoor power equipment

Methods include:

- removing
- fitting
- adjusting
- testing
- checking components

Methods should be applied under normal operating conditions.

Other variables may include:

- impact and overload protection
- automatic and manual line adjustment
- a range of line sizes and types
- protective shields
- electric motor and petrol engines

Specific requirements:

- removing, fitting and adjusting line trimming components fitted to brush cutters and lawn edgers

EVIDENCE GUIDE

The Evidence Guide describes the underpinning knowledge and skills that must be demonstrated to prove competency. It provides essential advice for assessment of the unit of competency and must be read in conjunction with the Performance Criteria, the Range Statement and the Assessment Guidelines for this unit.

(1) Critical Aspects and Evidence

It is essential that competence is fully observed and there is the ability to transfer the competency to changing circumstances and to respond to unusual situations in the critical aspects of:

- removing, fitting and adjusting components in accordance with specifications and workplace procedures
- checking adjustments and alignments of line trimming systems

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- the relationship of a line trimming system to the power unit, drive, safety, adjustment
- overload protection devices of the equipment
- mechanical principles relevant to line trimming systems
- classifications of line trimming systems and components
- materials used in line trimming systems
- procedures for removing and fitting components and sub-assemblies
- relevant safety precautions
- basic communication techniques
- basic computation skills

Skill
The ability to:

- interpret equipment specifications
- use removing, fitting and adjusting tools and equipment
- communicate with customers
- maintain workplace records
- remove, fit and adjust line trimming system components

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant operating and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required:

- answer questions put by the assessor
- identify supervisors/colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge .

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

The underpinning knowledge and skills may be assessed on or off-the-job or a combination of both.

The assessment of practical skills must take place only after a period of supervised practice and repetitive experience.

If workplace conditions are not available, assessment in simulated workplace conditions is acceptable.

The prescribed outcome must be able to be achieved without direct supervision.
The competency should be assessed within the context of the qualification being sought.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills

ASRSER0031A: Service chain cutting systems

Competency Descriptor: This unit identifies the competence attributes required to service chain cutting systems fitted to chainsaws and trenchers as require by the industry.

Competency Field: Small Engine Repairs

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Determine service requirements for the chain cutting system	1.1	Customer's requirements are checked, and the intended use of the equipment is confirmed with the customer.
		1.2	The chain cutting system is inspected and operated and the appropriate service options identified through sight, feel and listening tests.
		1.3	An estimate of cost and time/date of completed service is communicated to the customer and clearance to proceed is obtained.
2.	Service the chain cutting system	2.1	The equipment manufacturer/supplier service specifications and recommendations are accessed and checked.
		2.2	Additional personnel/sub-contractors required to assist in the service procedure are identified.
		2.3	Service is carried out in accordance with specifications and the customer's requirements.
		2.4	Chain cutting system components are sharpened to provide effective cutting edges.
		2.5	Adjustments and alignments are checked and the chain cutting system tested under operating conditions.
		2.6	Workplace records are updated and the customer invoice/report which includes all relevant service information is prepared.
3.	Return the chain cutting system to customer service	3.1	The customer is advised of the service provided including any unexpected conditions encountered.
		3.2	Normal operation of the serviced chain cutting system is demonstrated to the customer in an appropriate test area.
		3.3	Customer concerns are addressed with courtesy.

4.	Clean up area	4.1 All waste material is removed and disposed of.
		4.2 Area related to work activities is cleaned.
		4.3 Tools and equipment are cleaned, maintained and stored.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

The following variables may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Resources may include:

- general workshop equipment
- sharpening equipment
- equipment fitted with a chain cutting system
- area and equipment for safe testing of chain cutting systems
- personal protective equipment
- chain cutting system components fitted to chainsaws and trenchers
- equipment stands
- air tools
- grinders
- chain breaking and riveting equipment
- exhaust gas extraction system
- lubrication, lifting and cleaning equipment

Other variables may include:

- nickel alloy and chrome-plated cutters
- replaceable sprocket nose or stellite-tipped bar
- impact and overload protection
- safety brake
- manual and automatic lubrication
- tension adjustment
- electric motor and petrol engines

Methods include:

- sharpening, grinding, adjusting and testing chain cutting system components
- adjusting, aligning, lubricating and testing chain cutting systems

Methods should be applied under normal operating conditions.

Sources of information/documents may include:

- manufacturer specifications
- enterprise operating procedures
- product manufacturer specifications
- customer requirements
- industry/workplace codes of practice

OH&S practices must abide by:

- state/industry OH&S legislation
- award provisions

Specific requirements:

- servicing chain cutting systems fitted to chainsaws and trenchers

This competency standard applies to:

- Outdoor Power Equipment

EVIDENCE GUIDE

The Evidence Guide describes the underpinning knowledge and skills that must be demonstrated to prove competency. It provides essential advice for assessment of the unit of competency and must be read in conjunction with the Performance Criteria, the Range Statement and the Assessment Guidelines for this unit of competency.

(1) Critical Aspects and Evidence

It is essential that competence is fully observed and there is the ability to transfer the competency to changing circumstances and to respond to unusual situations in the critical aspects of:

- servicing chain cutting systems in conformity with specified service and safety requirements
- sharpening and adjusting chain cutting systems to provide effective cutting surfaces

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- the relationship of a chain cutting system to the power unit, drive, safety and adjustment systems
- overload protection device of the equipment
- mechanical and hydraulic principles relevant to chain cutting systems
- classifications of chain cutting systems and components
- types of servicing/sharpening tools and equipment
- types of lubricants, methods of lubrication
- materials used in chain cutting system components
- relevant safety precautions
- basic communication techniques
- basic computation skills

Skill
The ability to:

- assess, interpret and apply service information
- identify service requirements
- conduct sight, feel and listening tests
- select and apply lubricants
- use relevant service tools and equipment
- use specialised grinders and sharpening equipment
- service chain cutting systems
- provide customer service
- prepare service reports
- communicate with customers orally and in writing
- maintain workplace records

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant operating and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required:

- answer questions put by the assessor
- identify supervisors/colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge .

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

The underpinning knowledge and skills may be assessed on or off-the-job or a combination of both.

The assessment of practical skills must take place only after a period of supervised practice and repetitive experience.

If workplace conditions are not available, assessment in simulated workplace conditions is acceptable.

The prescribed outcome must be able to be achieved without direct supervision.
The competency should be assessed within the context of the qualification being sought.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical E mployability Skills

ASRSER0041A: Service drum cutting systems

Competency Descriptor: This unit identifies the skills knowledge and attributes required to service drum cutting systems fitted to equipment such as gang-mowers, self-propelled, hand-operated, electric-powered and petrol-engined drum mowers, chippers and mulchers as required by the industry.

Competency Field: Small Engine Repairs

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Determine service requirements for the drum cutting system	1.1	Customer requirements are checked, and the intended use of the equipment is confirmed with the customer.
		1.2	The drum cutting system is inspected and operated and the appropriate service options identified through sight, feel and listening tests.
		1.3	An estimate of cost and time/date of completed service is communicated to the customer and clearance to proceed is obtained.
2.	Service the drum cutting system	2.1	The equipment manufacturer/supplier service specifications and recommendations are accessed and checked.
		2.2	Additional personnel/sub-contractors required to assist in the service procedure are identified.
		2.3	Service is carried out in accordance with specifications and the customer requirements.
		2.4	Drum cutting system components are sharpened to provide effective cutting edges.
		2.5	Adjustments and alignments are checked and the drum cutting system tested under operating conditions.
		2.6	Workplace records are updated and the customer invoice/report which includes all relevant service information is prepared.
3.	Return the drum cutting system to customer service	3.1	The customer is advised of the service provided including any unexpected conditions encountered.
		3.2	Normal operation of the serviced drum cutting system is demonstrated to the customer in an appropriate test area.

	3.3	Customer concerns are addressed with courtesy.
4. Clean up area	4.1	All waste material is removed and disposed of.
	4.2	Area related to work activities is cleaned.
	4.3	Tools and equipment are cleaned, maintained and stored.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

The following variables may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Resources may include:

- general workshop equipment
- sharpening equipment
- equipment fitted with a drum cutting system
- drum cutting system components
- area and equipment for safe testing of drum cutting systems
- personal protective equipment

- drum cutting systems fitted to gang mowers, self-propelled, hand-operated, electric-powered and petrol-engined drum mowers, chippers and mulchers
- equipment/floor stands, jacks
- air and electric tools
- exhaust gas extraction system
- lubrication, lifting and cleaning equipment
- specialised precision grinders

Sources of information/documents may include:

- manufacturer specifications
- enterprise operating procedures
- product manufacturer specifications
- customer requirements
- industry/workplace codes of practice

Other variables may include:

- tungsten, diamond-tipped cutting edges
- height adjustment mechanisms
- drum cutter may incorporate other types of cutters

OH&S practices must abide by:

- state/industry OH&S legislation
- award provisions

This competency standard applies to:

- Outdoor Power Equipment

Methods include:

- sharpening, grinding, adjusting and testing drum cutting system components
- adjusting, aligning, lubricating and testing drum cutting systems

Methods should be applied under normal operating conditions.

Specific requirements:

- Servicing drum cutting systems fitted to gang mowers, self-propelled, hand-operated, electric-powered and petrol-engined drum mowers, chippers and mulchers

EVIDENCE GUIDE

It is essential that competence is fully observed and there is the ability to transfer the competency to changing circumstances and to respond to unusual situations in the critical aspects of:

(1) Critical Aspects and Evidence

- demonstrating safe working practices at all times
- communicating information about processes, events or tasks being undertaken to ensure a safe and efficient working environment
- performing all tasks in accordance with standard operating procedures
- performing all related tasks to specification
- using accepted service repair techniques, practices, processes and workplace procedures
- servicing drum cutting systems in conformity with specified service and safety requirements
- sharpening and adjusting drum cutting systems to provide effective cutting surfaces

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- the relationship of a drum cutting system to the power unit, drive, safety and adjustment systems, overload protection device of the equipment
- mechanical principles relevant to drum cutting systems
- classifications of drum cutting systems and components
- types of servicing/sharpening tools and equipment
- types of lubricants, methods of lubrication
- materials used in drum cutting system components
- relevant safety precautions
- basic communication techniques
- basic computation skills

Skill
The ability to:

- assess, interpret and apply service information
- identify service requirements
- conduct sight, feel and listening tests
- select and apply lubricants
- use relevant service tools and equipment
- use specialised grinders and sharpening equipment
- service drum cutting systems
- provide customer service
- prepare service reports
- communicate with customers orally and in writing
- maintain workplace records

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant operating and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required:

- answer questions put by the assessor
- identify supervisors/colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

The underpinning knowledge and skills may be assessed on or off-the-job or a combination of both.

The assessment of practical skills must take place only after a period of supervised practice and repetitive experience.

If workplace conditions are not available, assessment in si mulated workplace conditions is acceptable.

The prescribed outcome must be able to be achieved without direct supervision.
The competency should be assessed within the context of the qualification being sought.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Compet ency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills 4

ASRSER0051A: Service jet drive propulsion systems

Competency Descriptor: This unit identifies the skills, knowledge and attributes required to carry out the service of jet drive propulsion systems and/or associated components as required by the industry

Competency Field: Small engine repairs

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Determine service requirements for the jet drive propulsion system	1.1	Customer requirements are checked, and the intended use of the equipment is confirmed with the customer.
		1.2	The jet drive propulsion system is inspected and operated and the appropriate service options identified through sight, feel and listening tests.
		1.3	An estimate of cost and time/date of completed service is communicated to the customer and clearance to proceed is obtained.
2.	Service jet drive propulsion systems and associated components	2.1	Jet drive propulsion service is completed without causing damage to any component or system.
		2.2	Correct information is accessed and interpreted from appropriate manufacturer specifications.
		2.3	Service to jet drive propulsion system installation is carried out in accordance with vehicle/system manufacture r current specifications for methods, equipment used and tolerances relative to the vessel/system.
		2.4	Appropriate workplace documentation is completed and dealt with relevant to service outcomes.
		2.5	Service of jet drive propulsion systems are carr ied out according to industry regulations/guidelines, OH&S legislation, statutory legislation and enterprise procedures/policies.
3.	Return the drum cutting system to customer service	3.1	The customer is advised of the service provided including any unexpected conditions encountered.
		3.2	Normal operation of the serviced drum cutting system is demonstrated to the customer in an appropriate test area.

	3.3	Customer concerns are addressed with courtesy.
4. Clean up area	4.1	All waste material is removed and disposed of.
	4.2	Area related to work activities is cleaned.
	4.3	Tools and equipment are cleaned, maintained and stored.

RANGE STATEMENTS

This competency standard applies to the following and should be contextualised under supervision to the qualification to which it is being applied as related to the servicing of jet drive propulsion systems this includes the replacement and repair of components as well as routine maintenance.

Methods include:

- measuring
- visual inspection
- assessing
- testing

Methods should be applied under normal operating conditions.

Sources of information/documents may include:

- manufacturer specifications
- enterprise operating policy
- industry codes of practice
- product manufacturer specifications
- statutory legislation for marine vessels

Resources may include:

- hand tools, precision tools, equipment may include: micrometer, dial indicator,
- feeler gauges, specialist service tools, pressure testing equipment

OH&S practices must abide by:

- State/industry OH&S legislation
- Award provisions

This competency standard applies to:

- marine applications: single hull, multi hull, single and multi engine, personal water craft

Systems may include:

- single and multi stage units
- fixed and variable pitch impellers

EVIDENCE GUIDE

It is essential that competence is fully observed and there is the ability to transfer the competency to changing circumstances and to respond to unusual situations in the critical aspects of:

(1) Critical Aspects and Evidence

- interpreting and communicating operational information
- safe working practices
- vehicle and personal safety procedures
- equipment safety requirements
- relevant replacement/refitting procedures
- identification of appropriate parts/components
- servicing jet drive propulsion systems and/or associated components

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- equipment/Material safety requirements
- operating principles of jet drive propulsion systems
- service procedures
- vessel safety requirements
- personal safety requirements
- statutory legislation where applicable
- industry codes of practice
- relevant safety precautions
- basic communication techniques
- basic computation skills

Skill
The ability to:

- access, interpret & apply technical information
- apply personal safety requirements
- use relevant tools & equipment
- test propulsion unit for normal operation
- service jet drive propulsion systems
- maintain customer records

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant operating and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required:

- answer questions put by the assessor
- identify supervisors/colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge .

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

The underpinning knowledge and skills may be assessed on or off-the-job or a combination of both.

The assessment of practical skills must take place only after a period of supervised practice and repetitive experience.

If workplace conditions are not available, assessment in simulated workplace conditions is acceptable.

The prescribed outcome must be able to be achieved without direct supervision.

The competency should be assessed within the context of the qualification being sought.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denot e level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills

ASRSER0081A: Repair propeller drive systems

Competency Descriptor: This unit identifies the attributes skills and knowledge required to repair propeller systems on marine craft as required by the industry.

Competency Field: Small Engine Repairs

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Determine service requirements for propeller drive system	1.1	Customer requirements are checked, and the intended use of the equipment is confirmed with the customer.
		1.2	The jet drive propulsion system is inspected and operated and the appropriate service options identified through sight, feel and listening tests.
		1.3	An estimate of cost and time/date of completed service is communicated to the customer and clearance to proceed is obtained.
2.	Repair, remove and replace propeller drive systems and/or associated components	2.1	Propeller drive systems and/or associated components repairs are completed without causing damage to any component or system.
		2.2	Correct information is accessed and interpreted from appropriate manufacturer specifications.
		2.3	Repairs and adjustments to propeller drive system components are carried out in accordance with vessel / system manufacturer current specifications for methods, equipment used and tolerances relative to the vessel/system.
		2.4	Appropriate workplace documentation is completed and dealt with relevant to repair outcomes.
		2.5	All propeller drive system repair, removal/replacement activities are carried out in according to industry regulations/guidelines, OH & S legislation, statutory legislation and enterprise policy/procedures.
3.	Return the propeller system to customer service	3.1	The customer is advised of the service provided including any unexpected conditions encountered.
		3.2	Normal operation of the serviced drum cutting system is demonstrated to the customer in an appropriate test area.

	3.3 Customer concerns are addressed with courtesy.
4. Clean up area	4.1 All waste material is removed and disposed of.
	4.2 Area related to work activities is cleaned.
	4.3 Tools and equipment are cleaned, maintained and stored.

RANGE STATEMENTS

Sources of information/documents may include:

- vessel manufacturer specifications
- enterprise operating procedures
- product manufacturer specifications
- customer requirements
- industry/workplace codes of practice
- Statutory legislation for Marine and Harbours Board requirements

This competency standard applies to:

- marine applications: mid-mounted engines, stern mounted engines, outboard engines, inboard and outboard engines

Systems may include:

- separate and integral thrust arrangements
- non-sealed, semi-sealed, and fully sealed gland systems
- pin, splines and keyed drives
- skeg bush materials

Other variables may include:

- direct drive, forward reverse drive, forward neutral drive, stern drive lower,
- stern drive upper

Resources may include:

- hand tools, power tools, testing equipment may include: hand held meters, testing tanks, system testers, measuring equipment
- special tools for removal/adjustment
- computer testers
- lifting equipment

OH&S practices must abide by:

- State/industry OH&S legislation
- Award provisions

Methods include:

- aural, visual and funct ional assessments, tank testing, testing under working conditions

Methods should be applied under normal operating conditions.

EVIDENCE GUIDE

It is essential that competence is fully observed and there is the ability to transfer the competency to changing circumstances and to respond to unusual situations in the critical aspects of:

(1) Critical Aspects and Evidence

- interpreting and communicating operational information
- safe working practices
- vehicle and personal safety procedures
- equipment safety requirements
- relevant replacement/refitting procedures
- identification of appropriate parts/components
- repair of propeller systems on marine craft

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- construction and operation of propeller systems
- removal, replacement and repair procedures
- relevant Marine and Harbour Board guidelines
- measuring and testing procedures
- vessel safety requirements
- equipment safety requirements
- materials used in the system
- classification of propeller system types
- relevant safety precautions
- basic communication techniques
- basic computation skills

Skill
The ability to:

- access, interpret and apply technical information
- use relevant tools and equipment
- test systems/components for both technical and legal requirements
- set up out board propulsion systems
- maintain customer records
- repair propeller drive systems
- remove and replace propeller drive system components
- apply manual handling techniques
- apply personal safety procedures

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant operating and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required:

- answer questions put by the assessor
- identify supervisors/colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

The underpinning knowledge and skills may be assessed on or off-the-job or a combination of both.

The assessment of practical skills must take place only after a period of supervised practice and repetitive experience.

If workplace conditions are not available, assessment in simulated workplace conditions is acceptable.

The prescribed outcome must be able to be achieved without direct supervision.
The competency should be assessed within the context of the qualification being sought.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills

ASRSER0091A: Service reciprocating cutting systems

Competency Descriptor: This unit identifies the attributes skills and knowledge required to service reciprocating cutting systems fitted to hedge trimmers as required by the industry.

Competency Field: Small engine repairs

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Determine service requirements for the reciprocating cutting system	1.1 Customer requirements are checked, and the intended use of the equipment is confirmed with the customer.
	1.2 The reciprocating cutting system is inspected and operated and the appropriate service options identified through sight, feel and listening tests.
	1.3 An estimate of cost and time/date of completed service is communicated to the customer and clearance to proceed is obtained.
2. Service the reciprocating cutting system	2.1 The equipment manufacturer/supplier service specifications and recommendations are accessed and checked.
	2.2 Additional personnel/sub-contractors required to assist in the service procedure are identified.
	2.3 Service is carried out in accordance with specifications and the customer's requirements.
	2.4 Reciprocating cutting system components are sharpened to provide effective cutting edges.
	2.5 Adjustments and alignments are checked and the reciprocating cutting system tested under operating conditions.
	2.6 Workplace records are updated and the customer invoice/report prepared which includes all relevant service information.
3. Return the reciprocating cutting system to customer service	3.1 The customer is advised of the service provided including any unexpected conditions encountered.
	3.2 Normal operation of the serviced reciprocating cutting system is demonstrated to the customer in an appropriate test area.

		3.3 Customer's concerns are addressed with courtesy.
4.	Clean up area	4.1 All waste material is removed and disposed of.
		4.2 Area related to work activities is cleaned.
		4.3 Tools and equipment are cleaned, maintained and stored.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

The following variables may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Resources may include:

- general workshop equipment
- sharpening equipment
- equipment fitted with a reciprocating cutting system
- area and equipment for safe testing of reciprocating cutting systems
- personal protective equipment
- reciprocating cutting system components fitted to hedge trimmers
- equipment stands
- air tools
- grinders
- exhaust gas extraction system
- lubrication equipment

Sources of information/documents may include:

- manufacturer specifications
- enterprise operating procedures
- product manufacturer specifications
- customer requirements
- industry/workplace codes of practice

OH&S practices must abide by:

- State/industry OH&S legislation
- Award provisions

This competency standard applies to:

- Outdoor Power Equipment

Methods include:

- sharpening, grinding, adjusting and testing reciprocating cutting system components
- adjusting, aligning, lubricating and testing reciprocating cutting systems

Methods should be applied under normal operating conditions.

Other variables may include:

- tungsten-tipped and steel blades and disks
- impact and overload protection
- cutting system adjustment
- electric motor and petrol engines

Specific requirements:

- Servicing reciprocating cutting systems fitted to hedge trimmers

EVIDENCE GUIDE

The Evidence Guide describes the underpinning knowledge and skills that must be demonstrated to prove competency. It provides essential advice for assessment of the unit of competency and must be read in conjunction with the Performance Criteria, the Range Statement and the Assessment Guidelines for this Training Package.

(1) Critical Aspects and Evidence

It is essential that competence is fully observed and there is the ability to transfer the competency to changing circumstances and to respond to unusual situations in the critical aspects of:

- interpreting and communicating operational information
- safe working practices
- vehicle and personal safety procedures
- equipment safety requirements
- relevant replacement/refitting procedures
- identification of appropriate parts/components
- servicing reciprocating cutting systems in conformity with specified service and safety requirements
- sharpening and adjusting reciprocating cutting systems to provide effective cutting surf aces

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- the relationship of a reciprocating cutting system to the power unit, drive, safety and adjustment systems, overload protection device of the equipment
- mechanical principles relevant to reciprocating cutting systems
- classifications of reciprocating cutting systems and components
- types of servicing/sharpening tools and equipment
- types of lubricants, methods of lubrication
- materials used in reciprocating cutting system components
- relevant safety precautions
- basic communication techniques
- basic computation skills

Skill
The ability to:

- assess, interpret and apply service information
- identify service requirements
- conduct sight, feel and listening tests
- select and apply lubricants
- use relevant service tools and equipment
- use specialised sharpening equipment
- service reciprocating cutting systems
- provide customer service
- prepare service reports
- communicate with customers orally and in writing
- maintain workplace records

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant operating and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required:

- answer questions put by the assessor
- identify supervisors/colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

The underpinning knowledge and skills may be assessed on or off-the-job or a combination of both.

The assessment of practical skills must take place only after a period of supervised practice and repetitive experience.

If workplace conditions are not available, assessment in simulated workplace conditions is acceptable.

The prescribed outcome must be able to be achieved without direct supervision.
The competency should be assessed within the context of the qualification being sought.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a tas k. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise informatio n	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Ass essment Guidelines for advice on how to use the Critical Employability Skills

ASRSER0101A: Service rotary cutting systems

Competency Descriptor: This unit identifies the competence required to service rotary cutting systems fitted to equipment such as tractors, rotary hoes, chippers, mulchers, rotary mowers, lawn-edgers and brushcutters as required by the industry.

Competency Field: Small engine repairs

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Determine service requirements for the rotary cutting system	1.1 Customer's requirements are checked, and the intended use of the equipment is confirmed with the customer.
	1.2 The rotary cutting system is inspected and operated and the appropriate service options identified through sight, feel and listening tests.
	1.3 An estimate of cost and time/date of completed service is communicated to the customer and clearance to proceed is obtained.
2. Service the rotary cutting system	2.1 The equipment manufacturer/supplier service specifications and recommendations are accessed and checked.
	2.2 Additional personnel/sub-contractors required to assist in the service procedure are identified.
	2.3 Service is carried out in accordance with specifications and the customer's requirements.
	2.4 Rotary cutting system components are sharpened to provide effective cutting edges.
	2.5 Adjustments and alignments are checked and the rotary cutting system tested under operating conditions.
	2.6 Workplace records are updated and the customer invoice/report which includes all relevant service information is prepared.
3. Return the rotary cutting system to customer service	3.1 The customer is advised of the service provided including any unexpected conditions encountered.
	3.2 Normal operation of the serviced rotary cutting system is demonstrated to the customer in an appropriate test area.
	3.3 Customer's concerns are addressed with courtesy.

4.	Clean up area	4.1 All waste material is removed and disposed of.
		4.2 Area related to work activities is cleaned.
		4.3 Tools and equipment are cleaned, maintained and stored.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

The following variables may be present with training and assessment depending on the work situation , needs of the candidate, accessibility of the item, and local industry and regional contexts.

Resources may include:

- general workshop equipment
- sharpening equipment
- equipment fitted with a rotary cutting system
- rotary cutting system components
- area and equipment for safe testing of rotary cutting systems
- personal protective equipment
- rotary cutting systems fitted to tractors, rotary hoes, chippers, mulchers, rotary mowers, lawn-edgers, brushcutters
- equipment/floor stands, jacks
- air and electric tools
- exhaust gas extraction system
- lubrication, lifting and cleaning equipment
- files, grindstones, sharpening jigs, specialised sharpening equipment
- hard-facing equipment

Sources of information/documents may include:

- manufacturer specifications
- enterprise operating procedures
- product manufacturer specifications
- customer requirements
- industry/workplace codes of practice

Other variables may include:

- tungsten, diamond-tipped cutting edges
- steel/polymer blades and discs
- impact and overload protection equipment
- height adjustment mechanisms
- customers who are owner/operators of small businesses such as a home lawn and garden maintenance service and who do not have substitute equipment may be offered a replacement unit while their rotary cutting system is being serviced

Methods include:

- sharpening, grinding, filing, adjusting and testing rotary cutting system components
- adjusting, aligning, lubricating and testing rotary cutting systems

Methods should be applied under normal operating conditions.

OH&S practices must abide by:

- State/industry OH&S legislation
- Award provisions

Specific requirements:

- Servicing rotary cutting systems fitted to tractors, rotary hoes, chippers, mulchers, rotary

This competency standard applies to:

- Outdoor Power Equipment

EVIDENCE GUIDE

It is essential that competence is fully observed and ther e is the ability to transfer the competency to changing circumstances and to respond to unusual situations in the critical aspects of:

(1) Critical Aspects and Evidence

- interpreting and communicating operational information
- safe working practices
- vehicle and personal safety procedures
- equipment safety requirements
- relevant replacement/refitting procedures
- identification of appropriate parts/components
- servicing rotary cutting systems in conformity with specified service and safety requirements
- sharpening rotary cutting system components to provide effective cutting surfaces

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- the relationship of a rotary cutting system to the power unit, drive, safety and adjustment systems, overload protection device of the equipment
- mechanical and hydraulic principles relevant to rotary cutting systems
- classifications of rotary cutting systems and components
- types of servicing/sharpening tools and equipment
- types of lubricants, methods of lubrication
- materials used in rotary cutting system components
- personal safety requirements
- relevant industry safety precautions
- basic communication techniques
- basic computation skills

Skill
The ability to:

- assess, interpret and apply service information
- identify service requirements
- conduct sight, feel and listening tests
- select and apply lubricants
- use relevant service tools and equipment
- use files, grinders, specialised sharpening equipment
- service rotary cutting systems
- provide customer service
- prepare service reports
- communicate with customers orally and in writing
- maintain workplace records

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant operating and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required:

- answer questions put by the assessor
- identify supervisors/colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

The underpinning knowledge and skills may be assessed on or off-the-job or a combination of both.

The assessment of practical skills must take place only after a period of supervised practice and repetitive experience.

If workplace conditions are not available, assessment in simulated workplace conditions is acceptable.

The prescribed outcome must be able to be achieved without direct supervision.
The competency should be assessed within the context of the qualification being sought.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills

ASRCOR0101A: Carry out basic mechanical cutting operations

Competency Descriptor: This unit deals with the skills and knowledge required to effectively carry out basic mechanical cutting operations as applies to individuals working in the automotive service and repairs industry.

Competency Field: Automotive Service and Repairs

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Determine job requirements	1.1	Job specification requirements are determined from job sheets and/or instructions.
		1.2	Appropriate method/machine is selected to meet specifications.
		1.3	Machine is loaded and adjusted appropriately for operation consistent with standard operating procedures.
2.	Select/set up machine tooling	2.1	Most appropriate tooling is selected.
		2.2	Tooling is correctly installed using standard operating procedures.
		2.3	Machine is set up and adjusted using standard operating.
3.	Operate mechanical cutting machine	3.1	Appropriate stops and guards are set and adjusted as required.
		3.2	Material is secured and correctly positioned using measuring equipment as necessary.
		3.3	Machine is started and stopped safely to standard operating procedures.
		3.4	Machine is operated to cut/hole material to specifications using standard operating procedures.
		3.5	Lubricant is used as required.
		3.6	Appropriate safety precautions are taken.
4.	Check material for conformance to specification	4.1	Machine and/or tooling are adjusted as required and in process adjustments carried out as necessary.
		4.2	Material is cut and/or holed to within workplace tolerances.
		4.3	Material is used in most economical way.
		4.4	Codes and standards are observed.

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

The following variables may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts

This unit may cover the operation of a number of the following activities:

- sawing
- shearing
- cropping
- holing /boring

Materials may include :

- ferrous metals
- non-ferrous metals
- non-metallic products

Examples of machines that could be covered include:

- guillotines
- croppers
- cold saws
- band saws
- drills
- power hacksaws
- cut off saw
- automatic saws

Work is undertaken under supervision or as part of a team environment to predetermined:

- standards of quality
- safety
- workshop procedure

This unit includes the set up and operation of a range of:

- mechanical cutting equipment
- holing /holing equipment

Typical applications of this unit may include cutting for:

- manufacture
- production
- cutting of materials selected from stores in a maintenance environment
- fabrication

EVIDENCE GUIDE

Competency is to be demonstrated safely and effectively when cutting material in accordance with the range listed within the range of variables statement.

(1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with the mecha nical cutting of materials or other units requiring the exercise of the skills and knowledge covered by this unit.

(2) Pre-requisite Relationship of Units

This unit does not cover hand or hand held power tools used for cutting purposes eg: circular sa ws, nibblers and side grinder. These skills are covered by other units, see Unit MEMCOR0191A (Use hand tools) and Unit MEMCOR0111A (Use power tools).

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- workplace and equipment safety requirements including relevant OH&S legislation and regulations
- cutting equipment
- cutting processes operations or activities
- hand tools and equipment
- materials relative to cutting processes
- materials preparation
- manual handling
- measurement
- drawings, sketches and instructions

Skills
The ability to:

- work safely to instructions
- interpret relative drawings and instructions
- use power tools and hand tools
- select material
- measure relative to cutting processes
- communicate effectively

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and docume ntation required
- any relevant workplace procedures
- any relevant product and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to orally, or by other methods of communication:

- answer questions put by the assessor
- identify colleagues who can be approached for the collection of compet ency evidence where appropriate
- present evidence of credit for any off -job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved wi ll be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

ITICOR0011A: Carry out data entry and retrieval procedures

Competency Descriptor: This unit deals with the skills and knowledge required to operate computer, to enter, manipulate and retrieve data and to access information and communicate via the Internet.

Competency Field: Information Technology and Communications - Operations

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA	
1. Initiate computer system	1.1	Equipment and work environment are correctly checked for readiness to perform scheduled tasks.
	1.2	The hardware components of the computer and their functions are correctly identified.
	1.3	Equipment is powered up correctly.
	1.4	Access codes are correctly applied.
	1.5	Appropriate software is selected or loaded from the menu.
2. Enter data	2.1	Types of data for entry correctly identified and collected.
	2.2	Input devices selected and used are appropriate for the intended operations.
	2.3	Manipulative procedures of Input device conform to established practices.
	2.4	Keyboard/mouse is operated within the designated speed and accuracy requirements.
	2.5	Computer files are correctly located or new files are created, named and saved.
	2.6	Data is accurately entered in the appropriate files using specified procedure and format.
	2.7	Data entered is validated in accordance with specified procedures.

		2.8	Anomalous results are corrected or reported in accordance with specified procedures.
		2.9	Back-up made in accordance with operating procedures.
3.	Retrieve data	3.1	The identity and source of information are established.
		3.2	Authority to access data is obtained where required.
		3.3	Files and data are correctly located and accessed.
		3.4	Integrity and confidentiality of data are maintained.
		3.5	The relevant reports or information is retrieved, using approved procedure.
		3.6	Formats to retrieved report or information conform to requirements.
		3.7	Copy of the data is printed where required.
4.	Amend data	4.1	Source of data/information for amendment is established.
		4.2	Data to be amended is correctly located within the file.
		4.3	The correct data/Information is entered, changed or deleted using appropriate input device and approved procedures.
		4.4	The Integrity of data is maintained.
5.	Use document layout and data format facilities	5.1	Requirements for document are verified where necessary.
		5.2	The given format and layout are appropriately applied.
		5.3	Facilities to achieve the desired format and layout are correctly identified, accessed and used.
		5.4	Data manipulating facilities are used correctly.
		5.5	Format reflects accuracy and completeness.

6.	Monitor the operation of equipment	6.1	The system is monitored to ensure correct operation of tasks.
		6.2	Routine system messages are promptly and correctly dealt with.
		6.3	Non-routine messages are promptly referred in accordance with operating requirements.
		6.4	Error conditions within level of authority are dealt with promptly, and uncorrected errors are promptly reported.
		6.5	Output devices and materials are monitored for quality.
7.	Access and transmit information via the Internet	7.1	Access to the Internet is gained in accordance with the provider's operating procedures.
		7.2	Evidence of the ability to negotiate web sites to locate and access specified information and other services is efficiently demonstrated.
		7.3	E-Mail is sent and retrieved competently.
8.	Close down computer system	8.1	The correct shut down sequence is followed.
		8.2	Problem with shutting down computer is reported promptly.
		8.3	All safety and protective procedures are observed.
		8.4	The system integrity and security are preserved.
9.	Maintain computer equipment	9.1	Cleaning materials and/or solutions used meet specified recommendation.
		9.2	The equipment is cleaned as directed.
		9.3	Wear and faults identified are promptly reported to the appropriate personnel.

RANGE STATEMENT

This unit applies to activities associated with essential operations linked to using and maintaining basic computer equipment.

Equipment:

- install supplied computer
- install supplied peripherals

Work environment:

- equipment
- furniture
- cabling
- power supply

Input devices:

- keyboard
- mouse
- scanner
- microphone
- camera

Data:

- textual
- numerical
- graphical

Software systems to include for:

- word processing
- spread sheet
- internet access

File operations:

Naming, updating, archiving, traversing field and records in database, use of search, sort, print

Files save on:

- network
- magnetic media
- personal PC

Maintenance:

- cleaning: enclosures, screen, input devices, output devices
- checking cables, etc

EVIDENCE GUIDE

Competency is to be demonstrated by the ability to accurately carry out basic data entry and retrieval operations on a computer system in accordance with the performance criteria and the range listed within the range of variables statement.

(1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- Initiate the use on the equipment.
- Use document layout and data format facilities.
- Locate and access data.
- Use file operations.
- Manipulate input devices.
- Key-in and format reports.
- Access to the internet.

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- safety for working with and around computers
- computer hardware and software systems
- procedure for initiating and closing down computer
- the operation of the data entry
  - management system
- methods of locating files
- organisation's standards applicable to
  - accessing files
- files operations and their applications
- file operation in database setting
- creating, locating and saving files
- using input devices
- using data checking devices
- formatting functions of software
- layout function of software
- graphic productions and manipulation
- regard for accuracy and security of
  - information
- functions on the internet

Skills
The ability to:

- identify computer hardware
- manipulate data input devices
- access data
- use file operations
- key-in and format reports and letters
- retrieve data
- amend data
- print data
- save data
- search and receive data from the internet
- send and receive E-Mail

(4) Resource Implications

Files saved on network, magnetic media, and personal Computer

Input devices: Keyboard, mouse, other selection devices

(5) Method of Assessment

Competency shall be assessed while work is undertaken under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competencies in this unit may be determined concurrently. Assessment must be in accordance with the performance criteria.

(6) Context of Assessment

This unit may be assessed on or off the job. Assessment should include practical demonstration either in the workplace or through a simulation. A range of methods to assess underpinning knowledge should support this

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level -	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level -	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMFAB0151A: Prepare for oxyacetylene/metal arc welding processes

Competency Descriptor: This unit deals with the skills and knowledge required to effectively prepare the process for carrying out oxyacetylene/metal arc welding processes and applies to individuals working in metal engineering and maintenance industry.

Competency Field: Metal Engineering and Maintenance

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan for installation process	1.1 Quality Assurance requirements of engineering /maintenance operations are recognized and adhered to.
	1.2 Preparation and planning requirements are identified from drawings/work location and/or supervisor's instructions.
	1.3 OH&S requirements are identified and adhered to in accordance with application tasks and workplace environment.
	1.4 Safety hazards are identified and correct procedures adopted to minimise risk to self and others.
	1.5 Materials are selected, safely handled and stored/located ready for application.
	1.6 Appropriate personal protective equipment are selected, correctly fitted and used.
	1.7 Tools and equipment selected are consistent with the job requirements,
	1.8 Tools and equipment selected are checked for serviceability and any faults reported to supervisor.
	1.9 Materials/components selected consistent with the job requirements where applicable and checked for damage.
2. Prepare equipment selected for welding process	2.1 Activities for equipment preparation are identified from specifications or supervisor's instructions.
	2.2 Equipment preparations are carried out to satisfy requirements of welding process.

3.	Prepare material selected for welding process	3.1	Activities for material preparation are identified from specifications or supervisor's instructions.
		3.2	Material preparation is carried out to satisfy requirements of welding process.
4.	Prepare work area suitable for welding process	4.1	Activities to be carried out in work area are identified from welding technique, method of welding and access to area.
		4.2	Work area is prepared for welding process according to supervisor's instructions.
5.	Set up tools, plant and equipment appropriate for welding process	5.1	Regular tools/measuring devices suitable for application processes are identified to job requirements.
		5.2	Regular tools/measuring devices are set up safely and effectively to carry out processes where applicable.
6.	Select materials, cut and prepare sections	6.1	Materials are obtained as per instruction.
		6.2	Correct manual handling techniques is used to move and place materials.
		6.3	Materials are safely moved to work area.
		6.4	Appropriate techniques used to accurately cut/bend/prepare/secure components to same length or given instruction.
7.	Distribute components	7.1	Components are distributed and stacked to suit job location and sequence.
8.	Clean up	8.1	Materials are stacked/stored for re-use or disposed of.
		8.2	Work area is cleared.
		8.3	Tools and equipment are cleaned, maintained and stored.

RANGE STATEMENT

This unit applies to the preparation processes carried out in preparing for welding processes using oxyacetylene and or metal arc welding techniques as per instructions.

Source of information:

- Specific work instructions/equipment manual
- health and safety requirements

Safety:

- personal safety
- hand tool safety
- welding safety
- manual lifting and handling

Types of hazards:

- faulty equipment
- premises,
- tools - obstructions
- hazardous substances
- faulty storage
- electrical wiring

Material to include:

- sheet metal
- steel plates
- pipes
- tubing

Work areas:

- fabrication layout
- maintenance
- welding
- finishing

Tools/equipment to include:

- power tools
- oxyacetylene welding and cutting equipment
- Angle grinders, pedestal grinders, surface grinders, rotary wire brushes
- hand and drill press
- cold chisel & files
- ball pein hammer
- arc welding equipment
- safety equipment
- work benches
- hack saw
- screwdrivers
- spirit level
- vices
- marking out tools
- chipping hammer

Protective clothing:

- coverall
- goggles
- gloves
- Safety boots
- safety helmet

Type of site and working conditions to include:

- workshop and on site
- at height as per industry standards
- in confined space
- indoors and out doors

Work is to be undertaken either as part of a team or individually, under supervision with instruction being as part of the supervisor's directions either verbal or written.

Reporting of faults may be verbal or written.

OH&S requirements to be in accordance with the Statutory regulations.

EVIDENCE GUIDE

Competency is to be demonstrated by carrying out the safe and effective preparation for oxyacetylene/metal arc welding processes accordance with performance criteria using any of the range of materials and processes listed within the range of variables statement.

(1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of oxyacetylene/metal arc welding processes
- demonstrate safe working practices at all times
- demonstrate the ability to prepare for oxyacetylene/metal arc welding processes
- demonstrate the ability to apply appropriate principles/techniques to welding environment
- demonstrate the ability to carry out specific measurement and preparation procedures
- take responsibility for the quality of their own work
- perform all tasks in accordance with standard operating procedures
- use accepted engineering techniques, practices, processes and workplace procedures.
- demonstrate safe and effective operational use of tools, measuring devices and equipment
- interactively communicate with others to ensure safe and effective workplace operations

(2) Pre-requisite Relationship of Units

- MEMCOR0141A Apply principles of Occupational Health and safety (OH&S) in work environment
- MEMCOR0191A Use hand tools

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- workplace and equipment safety requirements
- drawings and specifications
- measuring devices
- hand tools and equipment
- materials relative to welding process
- materials handling
- measurement relative to welding process
- welding techniques consistent with oxyacetylene/metal arc welding processes
- workplace communications

Skills
The ability to:

- work safely to instructions
- use hand tools
- use measuring devices
- handle material
- select material
- communicate effectively
- measure relative to process
- prepare for oxyacetylene/metal arc welding processes

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant product and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to:

- answer questions put by the assessor
- identify colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit.

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activity

(6) Context of Assessment

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMFAB0061A: Perform manual heating and thermal cutting

Competency Descriptor: This unit deals with the skills and knowledge required to effectively perform manual heating and thermal cutting and applies to individuals working in the metal engineering and maintenance industry.

Competency Field: Metal, Engineering and Maintenance

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Assemble/disassemble plant, equipment for manual heating and thermal cutting	1.1 Appropriate cutting process and/or procedure for material are selected.
	1.2 Accessories and equipment are correctly selected and assembled.
2. Operate heating and thermal cutting equipment	2.1 All safety procedures are observed.
	2.2 Equipment start up procedures is followed correctly and to standard operating procedures.
	2.3 Equipment adjustments are made correctly using standard operating procedures.
	2.4 Appropriate cutting allowances are made.
	2.5 Materials are used in the most economical way.
	2.6 Defects are recognised and corrective action taken to standard operating procedures.
	2.7 Materials are heated and cut to specification shape/size/length and to accepted workplace standards.

RANGE STATEMENT

Work is undertaken under supervision or as part of a team. Predetermined standards of quality and safety are observed and work is carried out following standard operating procedures.

- Manual, straight line cutting standards observed.
- Manual or automatic processes used to cut and heat to specifications

Cutting may include flame gouging by hand. All work carried out to standard and regulatory requirements.

Cutting may be applied to material of various thicknesses and types including ferrous, non-ferrous and non-metallic materials by a variety of methods, which may include fuel gas oxy fuel gas and air fuel gas.

Cutting may include use of hand held and self-propelled straight-line cutters.

Heating may be applied to material of various thicknesses and types including ferrous, non-ferrous and non-metallic materials by a variety of methods, which may include fuel gas, oxy fuel gas and air fuel gas.

Materials welded may include:

- low carbon steel
- cast iron

Setting up may include the correct connection of:

- hoses
- blowpipes
- regulators
- settings of gas mixtures

Preparation of materials would be minimal and may include but not limited to:

- preheating
- setting up jigs
- setting up fixtures
- setting up clamps

EVIDENCE GUIDE

Competency is to be demonstrated by safely and effectively performing routine manual heating and thermal cutting in accordance with the range listed within the range of variables statement.

(1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organizational policies and procedures including Quality Assurance requirements
- adopt and carry out correct procedures prior to setting up equipment and during the heating and cutting process
- demonstrate safe and effective operational use of tools, plant and equipment
- demonstrate correct procedures in setting up and shutting down equipment
- give particular attention to safety and elimination of hazards
- demonstrate safe handling of material
- interactively communicate with others to ensure safe operations
- demonstrate effective heating and thermal cutting techniques to produce designed outcome

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with manual heating and thermal cutting or other units requiring the exercise of the skills and knowledge covered by this unit.

(2) Pre-requisite Relationship of Units

- MEMCOR0141A Follow principles of occupational health and safety (OH&S) in work environment
- MEMCOR0161A Plan and undertake a routine task
- MEMCOR0081A Mark off/out (general engineering)
- MEMCOR0191A Use hand tools

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- workplace and equipment safety requirements including relevant OH&S guidelines and regulations
- heating medium/technique
- heating/cutting processes
- oxy-fuel equipment identification, transportation and storage
- hand tools and heating/cutting equipment
- materials/consumables relative to oxy-fuel heating and thermal cutting procedures
- materials preparation
- manual handling
- measurement
- drawings, sketches and instructions

Skills
The ability to:

- work safely to instructions
- communicate effectively
- interpret relative drawings and instructions
- use power tools and hand tools
- set up heating cutting equipment
- use heating cutting equipment
- identify/select material
- identify/select heating/cutting processes
- measure relative to heating and thermal cutting processes
- heat/cut efficiently

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant product and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to:

- answer questions put by the assessor
- identify colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities

(6) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills

MEMFAB0051A: Perform brazing and/or silver soldering

Competency Descriptor: This unit deals with the skills and knowledge required to effectively perform brazing and /or silver soldering as applies to individuals working in the metal engineering and maintenance industry.

Competency Field: Metal, Engineering and Maintenance

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Prepare materials and equipment	1.1 Job requirements are determined from specifications and/ or instructions.
	1.2 Materials are correctly prepared using appropriate tools and techniques.
	1.3 Materials are correctly assembled/aligned to meet specifications as required.
	1.4 Distortion prevention measures are identified and appropriate action taken as required.
	1.5 Heating equipment is assembled and set up safely and correctly in accordance with standard operating procedures.
	1.6 Correct and appropriate consumables are selected and prepared.
	1.7 Test run undertaken and verified as required.
2. Braze and/or silver solder	2.1 Correct and appropriate processes are selected to meet specifications.
	2.2 Materials are preheated as required.
	2.3 Consumables are applied using correct and appropriate techniques.
	2.4 Jointing material is applied correctly and in appropriate quantities to meet job/specifications.
	2.5 Used correct temperature and appropriate techniques.

3	Inspect joints	3.1	Excess jointing materials are removed using correct and appropriate techniques.
		3.2	Inspection of joints is undertaken using standard operating procedures and meeting specifications.
		3.3	Inspection results are reported/recorded using standard operating procedures as required.

RANGE STATEMENT

Work undertaken in a production, engineering or maintenance environment using predetermined standards of quality, safety and work procedures. Work may be undertaken under supervision or within a team environment. All work undertaken to standard requirements

Appropriate assembly of heating equipment may include:

- cylinders
- connections
- hoses
- tips
- nozzles

Heating medium and appropriate consumables can include:

- oxyacetylene
- fuel gas
- fluxes (resin or powder)
- all types of silver solder and brazing rods

Materials:

- low carbon steel (mild steel) up to 10 gauge
- low carbon steel plate up to 5mm
- steel and galvanised pipes up to 50mm

Location/condition:

- workshop
- plant
- fieldwork at ground level
- elevated positions
- dry
- humid and wet conditions
- construction environment
- agricultural environment
- food processing environment

Work activities:

- measuring,
- marking,
- grinding
- lifting,
- welding
- cutting
- aligning,
- shaping,
- filing,
- general machining

Specification:

- welding procedure
- weld profile regular in width
- even/regular ripple formation
- uniform in appearance,
- free from excessive undulations
- smooth stop/starts, tack incorporated,
- adequate penetration
- no excess undercut
- no craters

Types of welding joints:

- fillet weld
- lap weld
- butt weld,
- single and multi-run

Welding position:

- flat,
- vertical
- horizontal
- overhead

EVIDENCE GUIDE

Competency is to be demonstrated by safely and effectively performing routine oxyacetylene welding (fuel gas welding) in accordance with the range listed within the range of variables statement.

(1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organizational policies and procedures including Quality Assurance requirements
- adopt and carry out correct procedures prior to setting up oxy acetylene equipment and during the brazing and or silver soldering process
- demonstrate safe and effective operational use of tools, plant and equipment
- demonstrate correct procedures in setting up and shutting down oxy acetylene equipment
- give particular attention to safety and elimination of hazards
- demonstrate safe handling of material
- interactively communicate with others to ensure safe operations
- demonstrate effective brazing and or silver soldering technique to produce designed outcome

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling recording and reporting associated with brazing and/or silver soldering or other units requiring the exercise of the skills and knowledge covered by this unit.

(2) Pre-requisite Relationship of Units

- MEMCOR0141A Follow principles of occupational health and safety (OH&S) in work environment
- MEMCOR01611A Plan and undertake a routine task
- MEMCOR0191A Use hand tools

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- workplace and equipment safety requirements including relevant OH&S guidelines and regulations
- metal properties and classification
- heating medium/technique
- brazing/soldering processes
- oxy-fuel equipment identification, transportation and storage
- hand tools and equipment
- materials /consumables relative to brazing and silver soldering procedures
- materials preparation
- manual handling
- measurement
- drawings, sketches and instructions

Skills
The ability to:

- work safely to instructions
- communicate effectively
- interpret related drawings and instructions
- use brazing and soldering equipment
- identify/select material
- identify/select brazing soldering processes
- handle material, tools and equipment
- measure relative to brazing and or silver soldering processes
- identify/select materials relative to the brazing and or soldering process
- prepare materials relative to the brazing and or soldering process
- braze and or silver solder efficiently

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required.
- any relevant workplace procedures.
- any relevant product and manufacturing specifications.
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to:

- answer questions put by the assessor.
- identify colleagues who can be approached for the collection of competency evidence where appropriate.
- present evidence of credit for any off-job training related to this unit.

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities

(6) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

ASRSER0061A: Service post boring systems

Competency Descriptor: This unit identifies the attributes skills and knowledge required to service post boring systems, including those attached to chainsaws as require by the industry.

Competency Field: Small Engine Repairs

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Determine service requirements for the post boring system	1.1	Customer's requirements are checked, and the intended use of the equipment is confirmed with the customer.
		1.2	The post boring system is inspected and operated and the appropriate service options identified through sight, feel and listening tests.
		1.3	An estimate of cost and time/date of completed service is communicated to the customer and clearance to proceed is obtained.
2.	Service the post boring system	2.1	The equipment manufacturer/supplier service specifications and recommendations are accessed and checked.
		2.2	Additional personnel/sub-contractors required to assist in the service procedure are identified.
		2.3	Service is carried out in accordance with specifications and the customer requirements.
		2.4	Post boring system components are sharpened to provide effective cutting edges.
		2.5	Adjustments and alignments are checked and the post boring system tested under operating conditions.
		2.6	Workplace records are updated and the customer invoice/report, which includes all relevant service information is prepared.
3.	Return the post boring system to customer service	3.1	The customer is advised of the service provided including any unexpected conditions encountered.
		3.2	Normal operation of the serviced post boring system is demonstrated to the customer in an appropriate test area.
		3.3	Customer's concerns are addressed with courtesy.

4. Clean up area	4.1 All waste material is removed and disposed of.
	4.2 Area related to work activities is cleaned.
	4.3 Tools and equipment are cleaned, maintained and stored.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

The following variables may be present with training and assessment depending on the work situation needs of the candidate, accessibility of the item, and local industry and regional contexts.

Resources may include:

- general workshop equipment
- equipment fitted with a post boring system
- area and equipment for safe testing of post boring systems
- personal protective equipment
- post boring system components
- equipment stands
- air tools
- grinders
- exhaust gas extraction system
- lubrication, lifting and cleaning equipment

Sources of information/documents may include:

- manufacturer specifications
- enterprise operating procedures
- product manufacturer specifications
- customer requirements
- industry/workplace codes of practice

OH&S practices must abide by:

- State/industry OHS legislation
- Award provisions

This competency standard applies to:

- Outdoor Power Equipment

Methods include:

- sharpening, grinding, adjusting and testing post boring system components
- adjusting, aligning, lubricating and testing post boring systems

Methods should be applied under normal operating conditions.

Other variables may include:

- tungsten, diamond-tipped and steel augers
- impact and overload protection
- automatic and manual reversing
- boring system adjustment
- electric motor and petrol engines

Specific requirements:

- Servicing post boring systems including those fitted to chainsaws

EVIDENCE GUIDE

The Evidence Guide describes the underpinning knowledge and skills that must be demonstrat ed to prove competency. It provides essential advice for assessment of the unit of competency and must be read in conjunction with the Performance Criteria, the Range Statement and the Assessment Guidelines for this Training Package.

(1) Critical Aspects and Evidence

It is essential that competence is fully observed and there is the ability to transfer the competency to changing circumstances and to respond to unusual situations in the critical aspects of:

- interpreting and communicating operational information
- safe working practices
- vehicle and personal safety procedures
- equipment safety requirements
- relevant replacement/refitting procedures
- identification of appropriate parts/components
- servicing post boring systems in conformity with specified s ervice and safety requirements
- sharpening and adjusting post boring systems to provide effective boring surfaces

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- the relationship of a post b oring system to the power unit, drive, safety, reversing and adjustment systems
- overload protection device of the equipment
- mechanical principles relevant to post boring systems
- classifications of post boring systems and components
- types of servicing/sharpening tools and equipment
- types of lubricants, methods of lubrication
- materials used in post boring system components
- relevant safety precautions
- basic communication techniques
- basic computation skills

Skill
The ability to:

- assess, interpret and ap ply service information
- identify service requirements
- conduct sight, feel and listening tests
- select and apply lubricants
- use relevant service tools and equipment
- service post boring systems
- provide customer service
- prepare service reports
- communicate with customers orally and in writing
- maintain workplace records

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant operating and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required:

- answer questions put by the assessor
- identify supervisors/colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

The underpinning knowledge and skills may be assessed on or off-the-job or a combination of both.

The assessment of practical skills must take place only after a period of supervised practice and repetitive experience.

If workplace conditions are not available, assessment in simulated workplace conditions is acceptable.

The prescribed outcome must be able to be achieved without direct supervision.

The competency should be assessed within the context of the qualification being sought.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of compete ncy required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills

ASRSER0071A: Service post hole digging systems

Competency Descriptor: This unit identifies the attributes skill and knowledge required to service post hole digging systems fitted to equipment such as tractors and hand-held equipment as required by the industry.

Competency Field: Small engine repairs

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Determine service requirements for the post hole digging system	1.1 Customer's requirements are checked, and the intended use of the equipment is confirmed with the customer.
	1.2 The post hole digging system is inspected and operated and the appropriate service options identified through sight, feel and listening tests.
	1.3 An estimate of cost and time/date of completed service is communicated to the customer and clearance to proceed is obtained.
2. Service the post hole digging system	2.1 The equipment manufacturer/supplier service specifications and recommendations are accessed and checked.
	2.2 Additional personnel/sub-contractors required to assist in the service procedure are identified.
	2.3 Service is carried out in accordance with specifications and the customer requirements.
	2.4 Post hole digging system components are sharpened to provide effective cutting edges.
	2.5 Adjustments and alignments are checked and the post hole digging system tested under operating conditions.
	2.6 Workplace records are updated and the customer invoice/report which includes all relevant service information, is prepared.
3. Return the post hole digging system to customer service	3.1 The customer is advised of the service provided including any unexpected conditions encountered.
	3.2 Normal operation of the serviced post hole digging system is demonstrated to the customer in an appropriate test area.
	3.3 Customer's concerns are addressed with courtesy.

4.	Clean up area	4.1 All waste material is removed and disposed of.
		4.2 Area related to work activities is cleaned.
		4.3 Tools and equipment are cleaned, maintained and stored.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

The following variables may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Resources may include:

- general workshop equipment
- sharpening equipment
- equipment fitted with a post hole digging system
- area and equipment for safe testing of post hole digging systems
- personal protective equipment
- post hole digging system components fitted to tractors, rotary hoes and hand-held equipment
- equipment stands
- air tools
- grinders
- exhaust gas extraction system
- lubrication, lifting and cleaning equipment

Sources of information/documents may include:

- manufacturer specifications
- enterprise operating procedures
- product manufacturer specifications
- customer requirements
- industry/workplace codes of practice

OH&S practices must abide by:

- State/industry OHS legislation
- Award provisions

This competency standard applies to:

- Outdoor Power Equipment

Methods include:

- sharpening, grinding, adjusting and testing post hole digging system components
- adjusting, aligning, lubricating and testing post hole digging systems

Methods should be applied under normal operating conditions.

Specific requirements:

- Servicing post hole digging systems fitted to tractors, rotary hoes and hand-held equipment

Other variables may include:

- tungsten, diamond-tipped and steel augers
- impact and overload protection
- height adjustment
- electric motor, diesel and petrol engines

EVIDENCE GUIDE

The Evidence Guide describes the underpinning knowledge and skills that must be demonstrated to prove competency. It provides essential advice for assessment of the unit of competency and mu st be read in conjunction with the Performance Criteria, the Range Statement and the Assessment Guidelines for this unit of competency.

(1) Critical Aspects of Evidence

It is essential that competence is fully observed and there is the ability to transf er the competency to changing circumstances and to respond to unusual situations in the critical aspects of:

- interpreting and communicating operational information
- safe working practices
- vehicle and personal safety procedures
- equipment safety requirements
- relevant replacement/refitting procedures
- identification of appropriate parts/components
- servicing post hole digging systems in conformity with specified service and safety requirements
- sharpening and adjusting post hole digging systems to provide effective cutting surfaces

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- the relationship of a post hole digging system to the power unit, drive, safety and adjustment systems
- overload protection device of the equipment
- mechanical and hydraulic principles relevant to post hole digging systems
- classifications of post hole digging systems and components
- types of servicing/sharpening tools and equipment
- types of lubricants, methods of lubrication
- materials used in post hole digging system components
- personal safety requirements
- relevant industry safety precautions
- basic communication techniques
- basic computation skills

Skill
The ability to:

- assess, interpret and apply service information
- identify service requirements
- conduct sight, feel and listening tests
- select and apply lubricants
- use relevant service tools and equipment
- use specialised sharpening equipment
- service post hole digging systems
- provide customer service
- prepare service reports
- communicate with customers orally and in writing
- maintain workplace records

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant operating and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required:

- answer questions put by the assessor
- identify supervisors/colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

The underpinning knowledge and skills may be assessed on or off-the-job or a combination of both.

The assessment of practical skills must take place only after a period of supervised practice and repetitive experience.

If workplace conditions are not available, assessment in simulated workplace c onditions is acceptable.

The prescribed outcome must be able to be achieved without direct supervision.
The competency should be assessed within the context of the qualification being sought.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills

ASRSER0111A: Service and repair marine transmissions (outboard or stern drive)

Competency Descriptor: This unit identifies the skills and required to carry out the service and repair to outboard or stern drive transmissions and/or their associated components as required by the industry.

Competency Field: Small engine repairs

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Determine service requirements for outboard and stern drive transmissions and/or associated components.	1.1 Customer's requirements are checked, and the intended use of the equipment is confirmed with the customer.
	1.2 The outboard and stern drive transmissions and/or associated components is inspected and operated and the appropriate service options identified through sight, feel and listening tests.
	1.3 An estimate of cost and time/date of completed service is communicated to the customer and clearance to proceed is obtained.
2. Service and repair outboard and stern drive transmissions and/or associated components	2.1 Service and repairs are completed without causing damage to any component or system.
	2.2 Correct information is accessed and interpreted from appropriate manufacturer specifications.
	2.3 Service, repairs and adjustments to system components are carried out in accordance with vehicle/plant/ system manufacturer current specifications for methods, equipment used and tolerance relative to the plant/vehicle/ system.
	2.4 Appropriate workplace documentation is completed and dealt with relevant to service and repair outcomes.
	2.5 All transmission system repair and removal/replacement activities are carried out according to industry regulations/guidelines, OH&S legislation, statutory legislation and enterprise procedures/policies.

3.	Return the marine transmission to customer service	3.1	The customer is advised of the service provided including any unexpected conditions encountered.
		3.2	Normal operation of the serviced marine transmission system is demonstrated to the customer in an appropriate test area.
		3.3	Customer's concerns are addressed with courtesy.
4.	Clean up area	4.1	All waste material is removed and disposed of.
		4.2	Area related to work activities is cleaned.
		4.3	Tools and equipment are cleaned, maintained and stored.

RANGE STATEMENTS

Sources of information/documents may include:

- vessel/plant/component manufacturer specifications
- enterprise operating procedures
- industry/workplace codes of practice
- product manufacturer specifications
- customer requirements

OH&S practices must abide by:

- State/industry OH&S legislation
- Award provisions

Methods include:

- tank test, electrical testing
- visual, aural and functional assessment (including: fluid leakage, selection, wear, damage, corrosion)

Methods should be applied under normal operating conditions

Resources may include:

- hand tools, power tools, special tools for removal/adjustment, lubricant dispensing equipment
- measuring equipment, meters, lifting equipment
- test equipment

This competency standard applies to:

- marine outboard and/or stern drive transmissions

EVIDENCE GUIDE

It is essential that competence is fully observed and there is the ability to transfer the competency to changing circumstances and to respond to unusual situations in the critical aspects of:

(1) Critical Aspects and Evidence

- interpreting and communicating procedural information
- transmission/components service and repair procedures
- safe working practices
- vehicle/plant protection methods
- manual handling methods

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- construction and operation of transmissions (relevant to application)
- removal, replacement, repair and service procedures
- types of lubricants and their application
- measuring and testing procedures
- relevant technical information
- equipment safety requirements
- vessel/plant/component safety requirements
- relevant manufacturer/enterprise policies
- manual handling techniques
- personal safety requirements
- relevant industry safety precautions
- basic communication techniques
- basic computation skills

Skill
The ability to:

- access, interpret and apply technical information
- use relevant tools and equipment
- test and adjust transmissions/components
- service marine transmission (outboard or stern drive)
- maintain customer records
- apply manual handling methods
- apply personal safety procedures

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant operating and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required:

- answer questions put by the assessor
- identify supervisors/colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

The underpinning knowledge and skills may be assessed on or off-the-job or a combination of both.

The assessment of practical skills must take place only after a period of supervised practice and repetitive experience.

If workplace conditions are not available, assessment in simulated workplace conditions is acceptable.

The prescribed outcome must be able to be achieved without direct supervision.
The competency should be assessed within the context of the qualification being sought.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills

ASRSER0121A: Service and repair marine transmissions (inboard)

Competency Descriptor: This unit identifies the skills, knowledge and attributes required to carry out the service or repairs to inboard transmissions and/or associated components as required by the industry

Competency Field: Small Engine Repairs

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Determine service requirements for the post hole digging system	1.1 Customer's requirements are checked, and the intended use of the equipment is confirmed with the customer.
	1.2 The marine inboard transmissions and associated components is inspected and operated and the appropriate service options identified through sight, feel and listening tests.
	1.3 An estimate of cost and time/date of completed service is communicated to the customer and clearance to proceed is obtained.
2. Service and repair marine inboard transmissions and/or associated components	2.1 Service and repairs are completed without causing damage to any component or system.
	2.2 Correct information is accessed and interpreted from appropriate manufacturer specifications.
	2.3 Service, repairs and adjustments to system components are carried out in accordance with vehicle/plant/system manufacturer current specifications for methods, equipment used and tolerance relative to the plant/vehicle/ system.
	2.4 Appropriate workplace documentation is completed and dealt with relevant to service and repair outcomes.
	2.5 All transmission system service, repair and removal/replacement activities are carried out according to industry regulations/guidelines, OH&S legislation, statutory legislation and enterprise procedures/policies.

3.	Return the marine transmission to customer service	3.1	The customer is advised of the service provided including any unexpected conditions encountered.
		3.2	Normal operation of the serviced marine transmission system is demonstrated to the customer in an appropriate test area.
		3.3	Customer's concerns are addressed with courtesy.
4.	Clean up area	4.1	All waste material is removed and disposed of.
		4.2	Area related to work activities is cleaned.
		4.3	Tools and equipment are cleaned, maintained and stored.

RANGE STATEMENTS

This competency standard applies to the following and should be contextualised under supervision to the qualification to which it is bein g applied as related to the servicing of marine transmission (inboard) this includes the replacement and repair of components as well as routine maintenance.

Sources of information/documents may include:

- vessel/plant/component manufacturer specifications
- enterprise operating procedures
- industry/workplace codes of practice
- product manufacturer specifications
- customer requirements

OH&S practices must abide by:

- State/industry OH&S legislation
- Award provisions

Methods include:

- electrical testing
- visual, aural and functional assessment (including: fluid leakage, selection, wear, damage, corrosion)

Methods should be applied under normal operating conditions.

Resources may include:

- hand tools, power tools, special tools for removal/adjustment, lubricant dispensing equipment
- measuring equipment, meters, lifting equipment
- Test equipment

This competency standard applies to:

- inboard marine transmissions

EVIDENCE GUIDE

It is essential that competence is fully observed and there is the ability to transfer the competency to changing circumstances and to respond to unusual situations in the critical aspects of:

(1) Critical Aspects and Evidence

- interpreting and communicating procedural information
- transmission/components service and repair procedures
- safe working practices
- vehicle/plant protection methods
- manual handling methods

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- construction and operation of transmissions (relevant to application)
- removal, replacement, repair and service procedures
- types of lubricants and their application
- measuring and testing procedures
- relevant technical information
- equipment safety requirements
- vessel/plant/component safety requirements
- relevant manufacturer/enterprise policies
- manual handling techniques
- personal safety procedures

Skill
The ability to:

- access, interpret and apply technical information
- use relevant tools and equipment
- test and adjust transmissions/components
- service and repair inboard marine transmissions
- maintain customer records
- service and repair transmissions
- apply manual handling methods
- apply personal safety procedures

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant operating and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required:

- answer questions put by the assessor
- identify supervisors/colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge .

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

The underpinning knowledge and skills may be assessed on or off-the-job or a combination of both.

The assessment of practical skills must take place only after a period of supervised practice and repetitive experience.

If workplace conditions are not available, assessment in simulated workplace conditions is acceptable.

The prescribed outcome must be able to be achieved without direct supervision.

The competency should be assessed within the context of the qualification being sought.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic compete ncy that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills

ASRSER0162A: Repair faults in chain cutting systems

Competency Descriptor: This unit identifies the attributes, skills and knowledge required to rectify faults in chain cutting systems fitted to chainsaws and trenchers as required by the industry.

Competency Field: Small engine repairs

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Determine repair requirements	1.1	Customer's requirements and equipment specifications are checked, following workplace procedures.
		1.2	Chain cutting system is tested, faults are identified through sight, feel and listening tests and recorded.
2.	Plan the repair procedure	2.1	Repair procedure is planned, costed and discussed with the customer.
		2.2	Implications of the repair, including technical and regulatory requirements and replacement parts needed are explained to the customer.
		2.3	Appropriate customer release to proceed with repair is obtained.
		2.4	Repair sequence is planned and availability of required tools and equipment is determined.
		2.5	Availability of replacement parts, qualified repair staff or sub-contractors and facilities is determined.
3.	Remove components, rectify faults and fit components	3.1	Tools and equipment are selected to meet job requirements and checked to ensure they are in good working order.
		3.2	Components are removed as required for repair procedure.
		3.3	Unusable components are discarded, reusable and repairable components are retained, following workplace procedures.
		3.4	Repair procedure is followed and work checked at designated points to determine serviceability of sub-assemblies and conformity to specifications.
		3.5	Reusable, repaired and replacement parts are fitted in accordance with the repair procedure.

4.	Check repaired chain cutting system for normal operation	4.1 Repaired chain cutting system is operated through full operating range.
		4.2 Operation is checked against equipment specifications and customer's requirements.
		4.3 Adjustments, fluid levels and alignments are checked.
		4.4 Workplace records are updated, including customer's file, accounts, follow-up notices and relevant warranty information.
5.	Return repaired chain cutting system to customer service	5.1 Customer report is provided which includes all relevant information on repairs and replacements.
		5.2 Follow-up adjustments, use and care of equipment and warranty requirements are explained to the customer.
		5.3 Customer's concerns are addressed with courtesy.
6.	Clean up area	6.1 All waste material is removed and disposed of.
		6.2 Area related to work activities is cleaned.
		6.3 Tools and equipment are cleaned, maintained and stored.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

The following variables may be present with training and assessment depending on the work situation needs of the candidate, accessibility of the item, and local industry and regional contexts.

Specific requirements:

- Identifying and rectifying faults in chain cutting systems fitted to chainsaws and trenchers

OH&S practices must abide by:

- State/industry OH&S legislation/guidelines
- Award provisions

Other variables may include:

- nickel alloy and chrome-plated cutters
- replaceable sprocket nose or stellite-tipped bar
- impact and overload protection
- safety brake
- manual and automatic lubrication
- tension adjustment
- electric motor and petrol engines

Sources of information/documents may include:

- manufacturer specifications
- enterprise operating procedures
- product manufacturer specifications
- customer requirements
- industry/workplace codes of practice

Resources may include:

- general workshop equipment
- sharpening equipment
- equipment fitted with a chain cutting system
- area and equipment for safe testing of chain cutting systems
- personal protective equipment
- chain cutting system components fitted to chainsaws and trenchers
- equipment stands
- air tools
- grinders
- chain breaking and riveting equipment
- exhaust gas extraction system
- lubrication, welding, lifting and pressing equipment

Methods include:

- removing, fitting and checking components of chain cutting systems
- checking, testing, identifying, reporting and rectifying faults in chain cutting systems

Methods should be applied under normal operating conditions

EVIDENCE GUIDE

This competency standard applies to the following and should be contextualised under supervision t o the qualification to which it is being applied as related to the repairing of faults in chain cutting systems this includes the replacement and repair of components as well as routine maintenance.

(1) Critical Aspects and Evidence

It is essential that competence is fully observed and there is the ability to transfer the competency to changing circumstances and to respond to unusual situations in the critical aspects of:

- interpreting and communicating operational information
- safe working practices
- vehicle and personal safety procedures
- equipment safety requirements
- relevant replacement/refitting procedures
- identification of appropriate parts/components
- repairing/replacing, fitting and adjusting components in accordance with specifications and work place procedures
- ensuring serviceable operation of sub-assemblies
- checking adjustments and alignments of repaired chain cutting systems

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- the relationship of a chain cutting system to the power unit, drive, safety and adjustment systems
- overload protection device of the equipment
- mechanical principles relevant to chain cutting systems
- classifications of chain cutting systems and components
- types of lubricants, methods of lubrication
- materials used in chain cutting system components
- procedures for removing and fitting components and sub-assemblies
- types and causes of faults in chain cutting systems
- methods of rectifying faults
- relevant safety precautions
- basic communication techniques
- basic computation skills

Skill
The ability to:

- interpret equipment specifications
- identify repair requirements
- conduct sight, feel and listening tests
- use removing, fitting and adjusting tools and equipment
- use repair tools and equipment
- repair faults in chain cutting systems
- select and apply lubricants
- prepare repair reports
- communicate with customers orally and in writing
- maintain workplace records

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant operating and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required:

- answer questions put by the assessor
- identify supervisors/colleagues who can be approached for the collection of competency evidence where appro priate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge .

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

The underpinning knowledge and skills may be assessed on or off-the-job or a combination of both.

The assessment of practical skills must take place only after a period of supervised practice and repetitive experience.

If workplace conditions are not available, assessment in simulated workplace conditions is acceptable.

The prescribed outcome must be able to be achieved without direct supervision.
The competency should be assessed within the context of the qualification being sought.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills

ASRSER0192A: Repair faults in reciprocating cutting systems

Competency Descriptor: This unit identifies the attributes skills and knowledge required to rectify faults in reciprocating cutting systems fitted to hedge trimmers as required by the industry.

Competency Field: Small engine repairs

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Determine repair requirements	1.1 Customer's requirements and equipment specifications are checked, following workplace procedures.
	1.2 Reciprocating cutting system is tested, faults are identified through sight, feel and listening tests and recorded.
2. Plan the repair procedure	2.1 Repair procedure is planned, costed and discussed with the customer.
	2.2 Implications of the repair, including technical and regulatory requirements and replacement parts needed are explained to the customer.
	2.3 Appropriate customer release to proceed with repair is obtained.
	2.4 Repair sequence is planned and availability of required tools and equipment is determined.
	2.5 Availability of replacement parts, qualified repair staff or sub - contractors and facilities is determined.
3. Remove components, rectify faults and fit components	3.1 Tools and equipment are selected to meet job requirements and checked to ensure they are in good working order.
	3.2 Components are removed as required for repair procedure.
	3.3 Unusable components are discarded; reusable and repairable components are retained, following workplace procedures.
	3.4 Repair procedure is followed and work checked at designated points to determine serviceability of sub-assemblies and conformity to specifications.
	3.5 Reusable, repaired and replacement parts are fitted in accordance with the repair procedure.

4.	Check repaired reciprocating cutting system for normal operation	4.1 Repaired reciprocating cutting system is operated through full operating range.
		4.2 Operation is checked against equipment specifications and customer requirements.
		4.3 Adjustments, fluid levels and alignments are checked.
		4.4 Workplace records are updated, including customer file, accounts, follow-up notices and relevant warranty information.
5.	Return repaired reciprocating cutting system to customer service	5.1 Customer report is provided which includes all relevant information on repairs and replacements.
		5.2 Follow-up adjustments, use and care of equipment and warranty requirements are explained to the customer.
		5.3 Customer's concerns are addressed with courtesy.
6.	Clean up area	6.1 All waste material is removed and disposed of.
		6.2 Area related to work activities is cleaned.
		6.3 Tools and equipment are cleaned, maintained and stored.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

The following variables may be present with training and assessment depending on the work situation , needs of the candidate, accessibility of the item, and local industry and regional contexts.

Sources of information/documents may include:

- manufacturer specifications
- enterprise operating procedures
- product manufacturer specifications
- customer requirements
- industry/workplace codes of practice

Other variables may include:

- tungsten-tipped and steel blades and disks
- impact and overload protection
- cutting system adjustment
- electric motor and petrol engines

OH&S practices must abide by:

- state/industry OH&S legislation
- award provisions

This competency standard applies to:

- outdoor power equipment

Resources may include:

- general workshop equipment
- sharpening equipment
- equipment fitted with a reciprocating cutting system
- area and equipment for safe testing of reciprocating cutting systems
- personal protective equipment
- reciprocating cutting system components fitted to hedge trimmers
- equipment stands
- air tools
- grinders
- exhaust gas extraction system
- lubrication equipment

Specific requirements:

- Identifying and rectifying faults in reciprocating cutting systems fitted to hedge trimmers

Methods include:

- removing, fitting and checking components of reciprocating cutting systems
- checking, testing, identifying, reporting and rectifying faults in reciprocating cutting systems

Methods should be applied under normal operating conditions.

EVIDENCE GUIDE

The Evidence Guide describes the underpinning knowledge and skills that must be demonstrated to prove competency. It provides essential advice for assessment of the unit of competency and must be read in conjunction with the Performance Criteria, the Range Statement and the Assessment Guidelines for this unit of competency.

(1) Critical Aspects and Evidence

It is essential that competence is fully observed and there is the ability to transfer the competency to changing circumstances and to respond to unusual situations in the critical aspects of:

- interpreting and communicating operational information
- safe working practices
- vehicle and personal safety procedures
- equipment safety requirements
- relevant replacement/refitting procedures
- identification of appropriate parts/components
- repairing/replacing, fitting and adjusting components in accordance with specifications and workplace procedures
- checking adjustments and alignments of repaired reciprocating cutting systems

(2) Pre-requisite Relationship of Units

- Service reciprocating cutting systems

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- the relationship of a reciprocating cutting system to the power unit, drive, safety and adjustment systems
- overload protection device of the equipment
- mechanical principles relevant to reciprocating cutting systems
- classifications of reciprocating cutting systems and identification of components
- types of lubricants, methods of lubrication
- materials used in reciprocating cutting system components
- procedures for removing and fitting components
- types and causes of faults in reciprocating cutting systems
- methods of rectifying faults
- relevant safety precautions
- basic communication techniques
- basic computation skills

Skill
The ability to:

- interpret equipment specifications
- identify repair requirements
- conduct sight, feel and listening tests
- use removing, fitting and adjusting tools and equipment
- use repair tools and equipment
- select and apply lubricants
- repair faults in reciprocating cutting systems
- prepare repair reports
- communicate with customers orally and in writing
- maintain workplace records

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant product and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to

- answer questions put by the assessor
- identify supervisors/colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge .

Evidence of competence may be obtained through a variety of methods including:

- observation
- oral questioning
- examination of assessee's portfolio/CV
- supporting statement from section engineer, supervisor or equivalent
- examples of related activities to which applicant has contributed, or worked on
- examples of authenticated assessments and/or assignments from formal education courses
- simulation

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

The underpinning knowledge and skills may be assessed on or off-the-job or a combination of both.

The assessment of practical skills must take place only after a period of supervised practice and repetitive experience. If workplace conditions are not available, assessment in simulated workplace conditions is acceptable.

The prescribed outcome must be able to be achieved without direct supervision.

The competency should be assessed within the context of the qualification being sought.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 2	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

ASRSER0202A: Repair faults in rotary cutting systems

Competency Descriptor: This unit identifies the competence required to rectify faults in rotary cutting systems fitted to equipment such as tractors, rotary hoes, chippers, mulchers, rotary mowers, lawn-edgers and brushcutters, including the removal, repair/replacement, fitting and adjustment of components.

Competency Field: Small engine repairs

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Determine repair requirements	1.1	Customer's requirements and equipment specifications are checked, following workplace procedures.
		1.2	Rotary cutting system is tested, faults are identified through sight, feel and listening tests and recorded.
2.	Plan the repair procedure	2.1	Repair procedure is planned, costed and discussed with the customer.
		2.2	Implications of the repair, including technical and regulatory requirements and replacement parts needed are explained to the customer.
		2.3	Appropriate customer release to proceed with repair is obtained.
		2.4	Repair sequence is planned and ava ilability of required tools and equipment is determined.
		2.5	Availability of replacement parts, qualified repair staff or sub - contractors and facilities is determined.
		2.6	Repair procedure is planned, costed and discussed with the customer.
3.	Remove components, rectify faults and fit components	3.1	Tools and equipment are selected to meet job requirements and checked to ensure they are in good working order.
		3.2	Components are removed as required for repair procedure.
		3.3	Unusable components are discarded; reusable and repairable components are retained, following workplace procedures.
		3.4	Repair procedure is followed and work checked at designated points to determine serviceability of sub-assemblies and conformity to specifications.

		3.5 Reusable, repaired and replacement parts are fitted in accordance with the repair procedure.
4.	Check repaired rotary cutting system for normal operation	4.1 Repaired rotary cutting system is operated through full operating range.
		4.2 Operation is checked against equipment specifications and customer's requirements.
		4.3 Adjustments, fluid levels and alignments are checked.
		4.4 Workplace records are updated, including customer file, accounts, follow-up notices and relevant warranty information.
5.	Return repaired rotary cutting system to customer service	5.1 Customer report is provided which includes all relevant information on repairs and replacements.
		5.2 Follow-up adjustments, use and care of equipment and warranty requirements are explained to the customer.
		5.3 Customer's concerns are addressed with courtesy.
6.	Clean up area	6.1 All waste material is removed and disposed of.
		6.2 Area related to work activities is cleaned.
		6.3 Tools and equipment are cleaned, maintained and stored.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

The following variables may be present with training and assessment depending on the work situation , needs of the candidate, accessibility of the item, and local industry and regional contexts.

OH&S practices must abide by:

- State/industry OH&S legislation
- Award provisions

This competency standard applies to:

- Outdoor Power Equipment

Methods include:

- removing, fitting and checking components of rotary cutting systems
- checking, testing, identifying, reporting and rectifying faults in rotary cutting systems

Methods should be applied under normal operating conditions.

Resources may include:

- general workshop equipment
- equipment fitted with a rotary cutting system
- rotary cutting system components
- area and equipment for safe testing of rotary cutting systems
- personal protective equipment
- rotary cutting systems fitted to tractors, rotary hoes, chippers, mulchers, rotary mowers lawn - edgers, brushcutters
- equipment/floor stands, jacks
- air and electric tools
- exhaust gas extraction system
- lifting equipment

Specific requirements:

- Identifying and rectifying faults in rotary cutting systems fitted to tractors, rotary hoes, chippers, mulchers, rotary mowers, lawn-edgers and brushcutters

Sources of information/documents may include:

- manufacturer specifications
- enterprise operating procedures
- product manufacturer specifications
- customer requirements
- Industry/Workplace Codes of Practice

Other variables may include:

- tungsten, diamond-tipped cutting edges
- steel/polymer blades and discs
- impact and overload protection equipment
- height adjustment mechanisms
- electric motors, petrol engines
- customers who are owner/operators of small businesses such as a home lawn and garden maintenance service and who do not have substitute equipment may be offered a replacement unit while their rotary cutting system is being serviced

EVIDENCE GUIDE

It is essential that competence is fully observed and there is the ability to transfer the competency to changing circumstances and to respond to unusual situations in the critical aspects of:

(1) Critical Aspects and Evidence

- interpreting and communicating operational information
- safe working practices
- vehicle and personal safety procedures
- equipment safety requirements
- relevant replacement/refitting procedures
- repairing/replacing, fitting and adjusting components in accordance with specifications and workplace procedures
- ensuring serviceable operation of sub-assemblies
- checking adjustments, fluid levels and alig nments of repaired rotary cutting systems

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- mechanical and hydraulic principles relevant to rotary cutting systems
- classifications of rotary cutting systems and components
- types of lubricants, methods of lubrication
- materials used in rotary cutting system components
- procedures for removing and fitting components and sub-assemblies
- types and causes of faults in rotary cutting systems
- methods of rectifying faults
- relevant safety precautions
- basic communication techniques
- basic computation skills

Skill
The ability to:

- interpret equipment specifications
- identify repair requirements
- conduct sight, feel and listening tests
- use removing, fitting and adjusting tools and equipment
- use repair tools and equipment
- select and apply lubricants
- repair faults in rotary cutting systems
- prepare repair reports
- communicate with customers orally and in writing
- maintain workplace records

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant product and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to

- answer questions put by the assessor
- identify supervisors/colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge .

Method of Assessment (Cont'd)

Evidence of competence may be obtained through a variety of methods including:

- observation
- oral questioning
- examination of assessee's portfolio/CV
- supporting statement from section engineer, supervisor or equivalent
- examples of related activities to which applicant has contributed, or worked on
- examples of authenticated assessments and/or assignments from formal education courses
- simulation

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

The underpinning knowledge and skills may be assessed on or off-the-job or a combination of both.

The assessment of practical skills must take place only after a period of supervised practice and repetitive experience. If workplace conditions are not available, assessment in simulated workplace conditions is acceptable.

The prescribed outcome must be able to be achieved without direct supervision.

The competency should be assessed within the context of the qualification being sought.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 2	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

ASRSER0222A: Repair propeller drive systems

Competency Descriptor: This unit identifies the skills and knowledge required to repair propeller systems on marine craft as required by the industry.

Competency Field: Small engine repairs

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Determine repair requirements	1.1	Customer's requirements and equipment specifications are checked, following workplace procedures.
		1.2	Propeller drive system is tested, faults are identified through sight, feel and listening tests and recorded.
2.	Plan the repair procedure	2.1	Repair procedure is planned, costed and discussed with the customer.
		2.2	Implications of the repair, including technical and regulatory requirements and replacement parts needed are explained to the customer.
		2.3	Appropriate customer release to proceed with repair is obtained.
		2.4	Repair sequence is planned and availability of required tools and equipment is determined.
		2.5	Availability of replacement parts, qualified repair staff or sub - contractors and facilities is determined.
3.	Repair, remove and replace propeller drive systems and/or associated components	3.1	Propeller drive systems and/or associated components repairs are completed without causing damage to any component or system.
		3.2	Correct information is accessed and interpreted from appropriate manufacturer specifications.
		3.3	Repairs and adjustments to propeller drive system components are carried out in accordance with vessel/ system manufacturer current specifications for methods, equipment used and tolerances relative to the vessel/system.
		3.4	Appropriate workplace documentation is completed and dealt with relevant to repair outcomes.

		3.5 All propeller drive system repair, removal/replacement activities are carried out in according to industry regulations/guidelines, OH & S legislation, statutory legislation and enterprise policy/procedures
4.	Check repaired propeller drive system for normal operation	4.1 Repaired Propeller drive system is operated through full operating range.
		4.2 Operation is checked against equipment specifications and customer's requirements.
		4.3 Adjustments, fluid levels and alignments are checked.
		4.4 Workplace records are updated, including customer file, accounts, follow-up notices and relevant warranty information.
5.	Return repaired Propeller drive system to customer service	5.1 Customer report is provided which includes all relevant information on repairs and replacements.
		5.2 Follow-up adjustments, use and care of equipment and warranty requirements are explained to the customer.
		5.3 Customer's concerns are addressed with courtesy.
6.	Clean up area	6.1 All waste material is removed and disposed of.
		6.2 Area related to work activities is cleaned.
		6.3 Tools and equipment are cleaned, maintained and stored.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

The following variables may be present with training and assessment depending on the work situation , needs of the candidate, accessibility of the item, and local industry and regional contexts.

This competency standard applies to:

- marine applications: mid-mounted engines, stern mounted engines, outboard engines, inboard and outboard engines

OH&S practices must abide by:

- State/industry OH&S legislation
- Award provisions

Sources of information/documents may include:

- vessel manufacturer specifications
- enterprise operating procedures
- product manufacturer specifications
- customer requirements
- industry/workplace codes of practice
- Statutory legislation fo r Marine and Harbour requirements

Systems may include:

- separate and integral thrust arrangements
- non-sealed, semi-sealed, and fully sealed gland systems
- pin, splines and keyed drives
- skeg bush materials

Other variables may include:

- direct drive, forward reverse drive, forward neutral drive, stern drive lower,
- stern drive upper

Resources may include:

- hand tools, power tools, testing equipment may include: hand held meters, testing tanks, system testers, measuring equipment
- special tools for removal/adjustment
- computer testers
- lifting equipment

Methods include:

- aural, visual and functional assessments, tank testing, testing under working conditions

Methods should be applied under normal operating conditions.

EVIDENCE GUIDE

It is es sential that competence is fully observed and there is the ability to transfer the competency to changing circumstances and to respond to unusual situations in the critical aspects of:

(1) Critical Aspects and Evidence

- interpreting and communicating ope rational information
- safe working practices
- vehicle and personal safety procedures
- equipment safety requirements
- relevant replacement/refitting procedures
- repair of propeller systems on marine craft

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- construction and operation of propeller systems
- removal, replacement and repair procedures
- relevant Marine and Harbour guidelines
- measuring and testing procedures
- vessel safety requirements
- equipment safety requirements
- materials used in the system
- classification of propeller system types
- basic communication techniques
- basic computation skills

Skill
The ability to:

- access, interpret and apply technical information
- use relevant tools and equipment
- test systems/components for both technical and legal requirements
- set up out board propulsion systems
- maintain customer records
- repair propeller drive systems
- remove and replace propeller drive system components
- apply manual handling techniques
- apply personal safety procedures

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant product and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to

- answer questions put by the assessor
- identify supervisors/colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Method of Assessment (Cont'd)

Evidence of competence may be obtained through a variety of methods including:

- observation
- oral questioning
- examination of assessee's portfolio/CV
- supporting statement from section engineer, supervisor or equivalent
- examples of related activities to which applicant has contributed, or worked on
- examples of authenticated assessments and/or assignments from formal education courses
- simulation

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

The underpinning knowledge and skills may be assessed on or off-the-job or a combination of both.

The assessment of practical skills must take place only after a period of supervised practice and repetitive experience. If workplace conditions are not available, assessment in simulated workplace conditions is acceptable.

The prescribed outcome must be able to be achieved without direct supervision.

The competency should be assessed within the context of the qualification being sought.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to th e seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 2	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

BSBSBM0012A: Craft personal entrepreneurial strategy

Competency Descriptor: This unit deals with the skills and knowledge required to craft an entrepreneurial strategy that fits with the attitudes, behaviours, management competencies and experience necessary for entrepreneurs to meet the requirements and demands of a specific opportunity.

Competency Field: Small Business Operations

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Demonstrate knowledge of the nature of entrepreneurship	1.1	Concepts associated with entrepreneurship are clearly defined.
		1.2	Factors, which influence entrepreneurship in and outside of Jamaica, are correctly identified and explained.
		1.3	The importance of entrepreneurship to economic development and employment is explained clearly.
		1.4	The findings of research conducted on entrepreneurial ventures and successes in the Caribbean region are clearly presented in an appropriate format.
		1.5	Differences between wage employment and entrepreneurial ventures are correctly stated.
2.	Identify and assess entrepreneurial characteristics	2.1	Relevant research is carried out and required entrepreneurial characteristics identified.
		2.2	Entrepreneurial characteristics identified are assessed and ranked.
		2.3	An understanding of the process and discipline that enable an individual to evaluate and shape choices and to initiate effective action is correctly demonstrated.
		2.4	Factors that will help an entrepreneur to manage the risk and uncertainties of the future, while maintaining a future orientated frame of mind, are identified.
3.	Develop self-assessment profile	3.1	Self-assessment tools/methods to identify personal entrepreneurial potential are identified and properly used.
		3.2	The ability to apply creativity, problem-solving techniques and principles to solve business related problems are demonstrated.

	3.3	Feedback from others for the purpose of becoming aware of blind spots and for reinforcing or changing existing perceptions of strengths/ weaknesses is appropriately obtained.
4. Craft an entrepreneurial strategy	4.1	A profile of the past that includes accomplishments and preferences in terms of life and work styles, coupled with a look into the future and an identification of what one would like to do is developed.
	4.2	Commitment, determination and perseverance; orientation towards goals; taking initiative and accepting personal responsibility; recognizing management competencies and identifying areas for development are determined.
	4.3	Written guidelines to obtain feedback that is solicited, honest, straightforward, and helpful but not all positive or negative are developed to facilitate reviews.
	4.4	Framework and process for setting goals which demand time, self-discipline, commitment, dedication and practice are developed.
	4.5	Goals established are specific and concrete, measurable, relate to time, realistic and attainable.
	4.6	Priorities, including identifying conflicts and trade-offs and how these may be resolved are established.
	4.7	Potential problems, obstacles and risks in meeting goals are identified.
	4.8	Specified action steps that are to be performed in order to accomplish goals are identified.
	4.9	The method by which results will be measured is indicated.
	4.10	Milestones for reviewing progress and tying these to specific dates on a calendar are established.
	4.11	Sources of help to obtain resources are identified.
	4.12	Evidence of the ability to review process and periodically revise goals is demonstrated.

RANGE STATEMENT

At this stage of the entrepreneurial process the entrepreneur must be able to conduct a self-assessment profile, examine the frame work for self assessment, develop a personal entrepreneurial strategy, identify data to be collected in the self-assessment process and learn about receiving feedback and setting goals.

Concepts associated to include:

- risk
- entrepreneurship
- macro-screening
- micro-screening
- competition
- wage employment

The entrepreneur must be able to:

- understand the extreme complexity in predicting or aligning him/herself to specific careers in an environment of constant change
- determine the kind of entrepreneur he or she wants to become based on attitudes, behaviours, competencies, experience and how these fit with the requirements and demands for a specific opportunity
- evaluate thoroughly his or her attraction to entrepreneurship
- effectively develop personal plan
- utilize available information that will enhance his or her ability to achieve success

Influencing factors to include:

- market conditions
- markets – demand/supply
- global trends
- level of economic activities
- funding
- economic stability
- social stability
- resources availability

The entrepreneur may encounter setbacks if the planning process is not effectively pursued.

Pitfalls may include:

- proceeding without effective planning which may result in commitment to uncertainty
- personal plans fail for the same reasons as business plans including frustration if the plan appears not to be working immediately and the challenges of changing behaviour from an activity-oriented routine to one that is goal oriented
- developing plans that fail to anticipate obstacles, and those that lack progress commitment to a premature path with the desirability of flexibility can lead to disaster
- milestones and reviews

EVIDENCE GUIDE

Competency is to be demonstrated when the entrepreneur is able to undertake a personal entrepreneurial assessment exercise to determine if he or she possesses the necessary credentials to be a successful entrepreneur. This stage of the entrepreneurial process is critical since experience has shown that the founder is one of the deciding forces if the venture is to succeed and prosper.

(1) Critical Aspects of Evidence

The entrepreneur will be assessed by his/her action in developing an orchestrated plan in order to effectively pursue the business concept.

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- personal entrepreneurial profile systems
- effective management systems: marketing, operations/productions, finance, administration, law
- how to measure feedback
- the method of developing a personal plan
    - and a business plan
- understanding the difference between entrepreneurial culture and management culture

Skills
The ability to:

- determine barriers to entrepreneurship
- minimize exposure to risk
- exploit any available resource pool
- tailor reward systems to meet a particular situation
- effectively plan and execute activities
- use computer technology to undertake assessments

(4) Resource Implications

The following resources should be made available:

Personal computer with access to the Internet and appropriate software that will enable one to conduct the necessary analysis using the Internet.

(5) Method of Assessment

A useful method of assessment is to determine if the venture can stand up to the test of critical evaluation.

(6) Context of Assessment

This stage of the entrepreneurial process is assessed when comparisons are made between actual outcomes and plans/projections.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

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Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.