TECHNICAL &
VOCATIONAL
EDUCATION &
TRAINING

National Competency Standard for AUTOMOTIVE MAINTENANCE

Qualifications Code: TRN01S07V2

[Endorsed by the MALDIVES QUALIFICATIONS AUTHORITY (MQA)]

PREFACE

Technical and Vocational Education and Training (TVET) Authority was established with the vision to develop a TVET system in the Maldives that is demand driven, accessible, beneficiary financed and quality assured, to meet the needs of society for stability and economic growth, the needs of Enterprise for a skilled and reliable workforce, the need of young people for decent jobs and the needs of workers for continuous mastery of new technology.

TVET system in the Maldives flourished with the Employment Skills Training Project (ESTP) funded by ADB with the objective of increasing the number of Maldivians, actively participating in the labor force, employed and self-employed. The Project supported expansion of demand driven employment-oriented skills training in priority occupations and to improve the capacity to develop and deliver Competency Based Skill Training (CBST). The project supported delivery of CBST programs to satisfy employer demand-driven needs. The National Competency Standards (NCS) provide the base for this training. Currently CBST is offered for five key sectors in the Maldives: Tourism, Fisheries and Agriculture, Transport, Construction and the Social sectors. These sectors are included as priority sectors that play a vital role in the continued economic growth of the country.

The NCS are developed in consultation with Employment Sector Councils representing employers. They are designed using a consensus format endorsed by the Maldives Qualifications Authority (MQA) to maintain uniformity of approach and the consistency of content amongst occupations. This single format also simplifies benchmarking the NCS against relevant regional and international standards. NCS specify the standards of performance of a competent worker and the various contexts in which the work may take place. NCS also describes the knowledge, skills and attitudes required in a particular occupation. They provide explicit advice to assessors and employers regarding the knowledge, skills and attitudes to be demonstrated by the candidates seeking formal recognition for the competency acquired following training or through work experience. By sharing this information, all participants in the training process have the same understanding of the training required and the standard to be reached for certification. Certification also becomes portable and can be recognized by other employers and in other countries with similar standards. NCS are the foundation for the implementation of the TVET system in Maldives. They ensure that all skills, regardless of where or how they were developed can be assessed and recognized. They also form the foundation for certifying skills in the Maldives National Qualification Framework (MNQF).

KEY FOR CODING

Coding Competency Standards and Related Materials

DESCRIPTION	REPRESENTED BY
Industry Sector as per ESC (Three letters)	Construction Sector **(CON)** Fisheries and Agriculture Sector **(FNA)** Transport sector **(TRN)** Tourism Sector **(TOU)** Social Sector **(SOC)** Foundation **(FOU)**
Competency Standard	**S**
Occupation with in a industry Sector	**Two digits 01-99**
Unit	**U**
Common Competency	**1**
Core Competency	**2**
Optional/ Elective Competency	**3**
Assessment Resources Materials	**A**
Learning Resources Materials	**L**
Curricula	**C**
Qualification	**Q1, Q2 etc**
MNQF level of Qualification	**L1, L2 etc**
Version Number	**V1, V2 etc**
Year of endorsement of standard, qualification	**By two digits Example- 07**

1.Endorsement Application for Qualification 01		
2. NATIONAL CERTIFICATE I IN AUTOMOTIVE MAINTENANCE		
3. Qualification code: TRN01SQ1L107	**Total Number of Credits:** 21	
4. Purpose of the qualification The holders of this qualification will be will be competent to work in the Automotive Maintenance Sector as Service Mechanics. The level one qualification presented here will facilitate preparing students to the entry level workplace tasks and the competency units are mapped in such a way to fulfill the knowledge and skills requirements of the "Assistant Mechanic" occupation within the local Automotive Industry. This qualification can also be used to award recognition to the "Light Vehicle Operators" within the Automotive Industry		
5. Regulations for the qualification	• National Certificate I in Automotive Maintenance will be awarded to those who are competent in units 1+2+3+4+5+6+7	
6. Schedule of Units		
Unit Title	**Unit Title**	**Code**
1	Work safely in the workplace	TRN01S1U01V1
2	Maintain workshop	TRN01S1U02V1
3	Handle and maintenance of workplace tools and equipment	TRN01S1U03V1
4	Undertake basic workshop calculation	TRN01S1U04V1
5	Perform effective workplace communication	TRN01S1U05V1
6	Move, position and park vehicle	TRN01S2U01V1
7	Wash/clean vehicle body and its interior	TRN01S2U02V1
7. Accreditation requirements	The training provider should have an automotive service workshop/garage or similar training facility to provide the trainees the hands-on experience related to this qualification	
8. Recommended sequencing of units	As appearing under the section 06	

1.Endorsement Application for Qualification 02	
2. NATIONAL CERTIFICATE III IN AUTOMOTIVE MAINTENANCE	
3. Qualification code: TRN01SQ2L307	**Total Number of Credits :63**
4. Purpose of the qualification The holders of the level two qualifications are expected to possess all the relevant knowledge and skills to work as Automotive Maintenance Mechanics in the local Automotive Maintenance Industry. Referred mechanics can undertake general functional assessment of the light vehicle engines and its systems and perform necessary repair and maintenance tasks.	
5. Regulations for the qualification	National Certificate III in Automotive Maintenance will be awarded to those who are competent in unit 1+2+3+4+5+6+7+8+9+10+11+12+13+14+15+ 16+17+18+19+20+21

6. Schedule of Units

Unit Title	Unit Title	Code
1	Work safely in the workplace	TRN01S1U01V1
2	Maintain workshop	TRN01S1U02V1
3	Handle and maintenance of workplace tools and equipments	TRN01S1U03V1
4	Undertake basic workshop calculation	TRN01S1U04V1
5	Perform effective workplace communication	TRN01S1U05V1
6	Move, position and park vehicle	TRN01S2U01V1
7	Wash/clean vehicle body and its interior	TRN01S2U02V1
8	Perform effectively in team environment	TRN01S1U06V1
9	Undertake inspection and servicing engines	TRN01S2U03V1
10	Undertake inspection and servicing cooling systems	TRN01S2U04V1
11	Undertake petrol fuel systems servicing	TRN01S2U05V1
12	Service diesel fuel system	TRN01S2U06V1
13	Service ignition system components	TRN01S2U07V1
14	Inspect and service steering systems components	TRN01S2U08V1
15	Inspect and service manual transmissions	TRN01S2U09V1
16	Inspect and service automatic transmissions	TRN01S2U10V1
17	Inspect and service braking system components	TRN01S2U11V1
18	Inspect and service auto electric system components	TRN01S2U12V1
19	Service final drive assembly components	TRN01S2U13V1
20	Inspect and Service Auto Air-conditioning system components	TRN01S2U14V1
21	Inspect and service hydraulic systems	TRN01S2U15V1

7. Accreditation requirements	The training provider should have an automotive service workshop/garage or similar training facility to provide the trainees the hands-on experience related to this qualification
8. Recommended sequencing of units	As appearing under the section 06

Units Details

Unit Title	Unit Title	Code	Level	No of credits
1	Work safely in the workplace	TRN01S1U01V1	1	3
2	Maintain workshop	TRN01S1U02V1	1	3
3	Handle and maintenance of workplace tools and equipments	TRN01S1U03V1	1	3
4	Undertake basic workshop calculation	TRN01S1U04V1	1	3
5	Perform effective workplace communication	TRN01S1U05V1	1	3
6	Move, position and park vehicle	TRN01S2U01V1	1	3
7	Wash/clean vehicle body and its interior	TRN01S2U02V1	1	3
8	Perform effectively in team environment	TRN01S1U06V1	3	3
9	Undertake inspection and servicing engines	TRN01S2U03V1	3	3
10	Undertake inspection and servicing cooling systems	TRN01S2U04V1	3	3
11	Undertake petrol fuel systems servicing	TRN01S2U05V1	3	3
12	Service diesel fuel system	TRN01S2U06V1	3	3
13	Service ignition system components	TRN01S2U07V1	3	3
14	Inspect and service steering systems components	TRN01S2U08V1	3	3
15	Inspect and service manual transmissions	TRN01S2U09V1	2	3
16	Inspect and service automatic transmissions	TRN01S2U10V1	2	3
17	Inspect and service braking system components	TRN01S2U11V1	2	3
18	Inspect and service auto electric system components	TRN01S2U12V1	2	3
19	Service final drive assembly components	TRN01S2U13V1	2	3
20	Inspect and Service Auto Air-conditioning system components	TRN01S2U14V1	3	3
21	Inspect and service hydraulic systems	TRN01S2U15V1	3	3

Packaging of National Qualifications:

National Certificate I in Automotive Maintenance (Light Vehicle) will be awarded to those who are competent in units
1+2+3+4+5+6+7

Qualification Code: TRN01SQ1L107

National Certificate III in Automotive Maintenance (Light Vehicle) will be awarded to those who are competent in units
1+2+3+4+5+6+7+8+9+10+11+12+13+14+15+16+17+18+19+20+21

Qualification Code: TRN01SQ2L307

Note: *For the purpose of these qualifications, Automotive Maintenance Technical Panel along with the Transport Employment Sector Council have agreed that* ***Light Vehicle are considered as vehicles whose carrying capacity is either equal or less than 2 tons****.*

Competency Standard for

AUTOMOTIVE MAINTENANCE

Unit No	Unit Title
1.	Work safely in the workplace
2.	Maintain workshop
3.	Handle and maintenance of workplace tools and equipments
4.	Undertake basic workshop calculation
5.	Perform effective workplace communication
6.	Perform effectively in team environment
7.	Move, position and park vehicle
8.	Undertake inspection and servicing engines
9.	Wash/clean vehicle body and its interior
10.	Undertake inspection and servicing cooling systems
11.	Undertake petrol fuel systems servicing
12.	Service diesel fuel system
13.	Service ignition system components
14.	Inspect and service steering systems components
15.	Inspect and service manual transmissions
16.	Inspect and service automatic transmissions
17.	Inspect and service braking system components
18.	Inspect and service auto electric system components
19.	Service final drive assembly components
20.	Inspect and Service Auto Air-conditioning system components
21.	Inspect and service hydraulic systems

Description of an AUTOMOTIVE MAINTENANCE

At present, Maldives have a population of wide range of vehicles with varying models and types. Inspection, repair, maintenance and overhaul of such vehicle system require varying knowledge and skills. The goal of these qualifications are to prepare competent Automotive Mechanics capable of undertaking all major and minor tasks associated with maintenance, repair and servicing of automotive vehicles in the Maldives. The proposed qualifications were prepared by a group of technical panel members currently working as experienced mechanics employed in government and private enterprises, workshops and service garages

Competency Standard Development Process

The competencies were determined based on the analysis of the tasks expected to be performed by the automotive mechanic in the Maldives. The task analysis was based on the existing documents prepared among the experts in the industry and on the advice of the experts in the field. Competency standards used for similar type of training in other countries were also examined

Unit 1

UNIT TITLE	Work safely in the workplace				
DESCRIPTOR	This unit incorporates safety guidelines and encompasses competencies necessary to apply basic safety and emergency procedures to maintain a safe workplace for staff, customers and others.				
CODE	TRN01S1U01V1	LEVEL	1	CREDIT	3

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Apply basic safety procedures	1.1. procedures to achieve a safe working environment followed and maintained in line with existing regulations and requirements and according to worksite policy 1.2. all unsafe situations recognized and reported according to worksite policy 1.3. all breakdowns in relation to machinery and equipment reported to supervisor or nominated persons 1.4. fire and safety hazards identified and precautions are taken or reported according to worksite policy and procedures 1.5. dangerous goods and substances identified, handled and stored according to worksite policy and procedures 1.6. worksite policy regarding manual handling practice followed
2. Apply necessary emergency procedures	2.1 worksite policies and procedures regarding illness or accidents identified and applied 2.2 safety alarms identified 2.3 qualified persons are contacted in the event of accident or sickness of customers or staff and accident details documented according to worksite accident/ injury procedures 2.4 worksite evacuation procedures identified and applied

Range Statement

Unsafe situations may include but are not limited to sharp cutting tools and instruments, the electricity/ water combination, toxic substances, damaged packing material or containers, broken or damaged equipment, flammable materials and fire hazards, lifting practices, spillages, waste and debris especially on floors, ladders, trolleys and glue guns/burns

Emergency procedures may include responding to sickness, accidents and fire, or store/shop evacuation involving staff or customers.

Tools, equipment and material used in this unit may include

Safety manuals, fire extinguishers and dangerous goods used in the workplaces.

ASSESSMENT GUIDE

Forms of assessment

Assessment for the unit needs to be holistic and must include real or simulated workplace activities.

Evidence of performance may be provided by customers, team leaders/members or other persons, subject to agreed authentication arrangements.

Assessment context

Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices.

Critical aspects (for assessment)

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

- Communicating effectively with others involved in or affected by the work.
- Identifying and assessing hazardous situations and rectifying, or reporting to the relevant persons.
- Operating fire-fighting appliances.
- Safely handling and storage of dangerous and/or hazardous goods and substances.
- Applying safe manual handling practices.
- Safely and effectively operating equipment and utilizing materials over the full range of functions and processes for work undertaken on worksite.
- Following worksite evacuation procedures.

This unit may be assessed in conjunction with all and units which form part of the normal job role.

Assessment conditions

It is preferable that assessment reflects a process rather than an event and occurs over a period of time to cover varying circumstances.

Special notes for assessment

Evidence of performance may be provided by customers, team leaders/members or other persons, subject to agreed authentication arrangements.

Resources required for assessment

The following should be made available:

- A workplace or simulated workplace
- Situations requiring safe working practices
- Worksite or equivalent instructions on safe working practice
- Hazardous chemicals and/or dangerous goods information
- Materials, tooling and equipment
- Fire-fighting appliances and fire test facilities

UNDERPINNING KNOWLEDGE AND SKILLS

Underpinning Knowledge	**Underpinning Skills**
• General knowledge of the implications on efficiency, morale and customer relations • General knowledge of common automotive terminologies • Working knowledge of workplace safety regulations/requirements, equipment, material and personal safety requirements. • Working knowledge of safe manual handling theories and practices • Working knowledge of the selection and application of fire-fighting appliances • Working knowledge of dangerous goods	• Undertake effective customer relation communications • Competent in communicating basic automotive terminologies • Competent to work according to safety regulations • Competent to work safely with workplace equipments, materials and colleagues • Undertake safe manual handling jobs • Skill to select and apply appropriate fire fighting appliances • Ability to safely handle dangerous good and hazardous chemicals

and hazardous chemicals handling processes • Detailed knowledge of worksite reporting procedures	• Competent to undertake appropriate worksite reporting procedures

Unit 2

UNIT TITLE	Maintain workshop				
DESCRIPTOR	This unit deals with inspecting and cleaning of the work area including tools, equipment and facilities. Storage and checking of tools/ equipment and disposal of used materials are also incorporated in this competency.				
CODE	TRN01S1U02V1	LEVEL	1	CREDIT	3

ELEMENTS OF COMPETENCIES	**PERFORMANCE CRITERIA**
1. Inspect/clean tools and work area	1.1. Cleaning solvent used as per workshop/tools cleaning requirement 1.2. Work area checked and cleaned 1.3. Wet surface/spot in work area wiped and dried
2. Store/arrange tools and shop equipment	2.1 Tools/equipment checked and stored in their respective shelves/location 2.2 Corresponding labels posted and visible 2.3 Tools safely secured and logged in the records
3. Dispose wastes/used lubricants	3.1 Containers for used lubricants visibly labelled 3.2 Wastes/used lubricants disposed as per workshop operating regulations
4. Report damaged tools/equipment	4.1 Complete inventory of tools/equipment maintained 4.2 Damaged tools/equipment/facilities identified and repair recommendations are given 4.3 Reports prepared have no errors/discrepancies

RANGE STATEMENT

Work areas include: Workshop areas for servicing/repairing light and/or heavy vehicle and/or plant transmissions and/or outdoor power equipment

- Open workshop/garage and enclosed, ventilated office area
- Other variables may include workshop with mess hall, wash room, comfort room

Cleaning requirements include cleaning solvent, inventory of supplies, tools, equipment, facilities, Rags, Broom, Mop, Pail, Used oil container and Dust/waste bin

Tools, equipment and materials used in this unit may include

- All workshop tools and cleaning materials
- A fully operational workshop with all equipments and tools including cleaning materials

ASSESSMENT GUIDE

Forms of assessment

Assessment for this competency unit needs to be holistic and must be well integrated with the work involved in a shop or a simulated environment.

Assessment context

Competency must be assessed on the job or in a simulated environment. The assessment of practical skills must take place after a period of supervised practice and repetitive experience.

Critical aspects (for assessment)

Assessment requires evidence that the candidate:

- Cleaned workshop tools/facilities
- Maintained equipment, tools and facilities
- Disposed of wastes and used lubricants/fluid as per required procedure

Assessment conditions

Competency must be assessed through:

- Written/Oral Questioning
- Demonstration
- The assessment of underpinning knowledge and practical skills may be combined.

Special notes for assessment

Work areas include:

- Workshop areas for servicing/repairing light and/or heavy vehicle and/or plant transmissions and/or outdoor power equipment
- Open workshop/garage and enclosed, ventilated office area

Resources required for assessment

The following resources must be provided:

- Workplace: Real or simulated work area
- Appropriate Tools & equipment
- Materials relevant to the activity

UNDERPINNING KNOWLEDGE AND SKILLS

Analyst groups might be advised to include Key Competencies and Levels in this section

Underpinning Knowledge	**Underpinning Skills**
• Service procedures • Relevant technical information • Safe handling of Equipment and tools • Vehicle safety requirements • Workshop policies • Personal safety procedures • Fire Extinguishers and prevention • Storage/Disposal of hazardous/flammable materials • Positive Work Values (Perseverance, Honesty, Patience, Attention to Details)	• Handling/Storing of tools/equipment/supplies and material • Cleaning grease/lubricants • Disposing of wastes and fluid • Preparing inventory of workshop tools, cleaning materials and equipments • Monitoring of workshop tools, cleaning materials and equipments

Unit 3

UNIT TITLE	Handle and maintenance of workplace tools and equipments				
DESCRIPTOR	This unit covers the competence required to select, safely use and maintain workplace tooling and equipment. The unit includes identification and confirmation of work requirement, preparation for work, selection, use, servicing, maintenance and storage of tooling and equipment and completion of work finalisation processes, including clean-up and documentation.				
CODE	TRN01S1U03V1	LEVEL	1	CREDIT	3

ELEMENTS OF COMPETENCIES	**PERFORMANCE CRITERIA**
1. Select correct tooling and equipment for workplace applications	1.1. Tooling and equipment selected to meet job requirements 1.2. Suitable tooling and equipment selected for use within the workplace environment 1.3. Tooling and equipment selected according to enterprise procedures/policies
2. Use of tooling and equipment	2.1 Tooling and equipment used in a safe manner to prevent injury to self and others 2.2 Tooling and equipment used in a manner that does not cause damage to other workplace equipment 2.3 Observations noted during the use of tooling/ equipment
3. Service and maintain workplace tooling and equipment	3.1 Tooling and equipment regularly checked against manufacturer/component supplier recommendations to ensure safe operating condition 3.2 Damaged/worn tooling and equipment tagged and removed from the workplace for repair or replacement and reported in accordance with enterprise requirements 3.3 Tooling/equipment are serviced, adjusted and/or maintained per manufacturer/component supplier schedule to ensure safe and correct operation, within the scope of responsibility 3.4 Servicing and maintenance operations carried out according to industry regulations/guidelines, enterprise procedures/policies
4. Store and secure tooling and equipment	4.1 Tooling and equipment cleaned, checked and stored 4.2 Tooling and equipment securely stored

	4.3 Documents completed according to enterprise policies and procedures

Range Statement

Tooling and equipment may include computer hardware/ software, calculators, general office equipment, hand and power tooling, specialist tooling for removal/adjustment, storage racks, protective covers, measuring devices, plastics repair equipment, sealing equipment, adhesive equipment, heating equipment, templates, welding equipment, including oxy, arc, MIG and TIG, vehicle cleaning equipment, service workshop manuals, product manuals, hydraulic breaker tooling, line oilers, filters and gauges, alternator and starting motor bench testers, paint mixers, key cutters, multimeters, load testers, brake and drum lathes, fuel injector cleaners, ignition module test instruments

Maintenance methods may include routine maintenance to tooling and equipment as per schedules, labelling faulty tooling and equipment, minor repairs to tooling and equipment, and the chocking, jacking and supporting of machines on level and incline planes

Specific requirements may include hydraulic jacks, air bags and overhead cranes for lifting heavy machines

Tools, equipment and materials used in this unit may include

- All the available workshop tools and equipments
- A fully operational workshop with all equipments and tools

ASSESSMENT GUIDE

Forms of assessment

Assessment for the unit needs to be a holistic one and must include real or simulated workplace activities.

Assessment context

Application of competence is to be assessed in the workplace or simulated worksite and needs to occur using standard and authorized work practices, safety requirements and environmental constraints.

Critical aspects (for assessment)

It is essential that competence in this unit signifies ability to transfer competence to changing circumstances and to respond to unusual circumstances in the critical aspects of:

- Selection and safe use of hand tooling

- Selection and safe use of workplace equipment
- Basic maintenance of tooling and equipment within the scope of operator responsibility
- Selection and safe use of personal protective equipment

Assessment conditions

It is preferable that assessment reflects a process rather than an event and occurs over a period of time to cover varying quality circumstances. Evidence of performance may be provided by customers, team leaders/members or other persons subject to agreed authentication arrangements

Special notes for assessment

Competence in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role

Resources required for assessment

The following resources should be made available:

- Workplace location or simulated workplace
- Material relevant to the use and maintenance of workplace tooling and equipment
- Equipment, hand and power tooling appropriate to the use and maintenance of workplace tooling and equipment
- Activities covering mandatory task requirements
- Specifications and work instructions

UNDERPINNING KNOWLEDGE AND SKILLS

Analyst groups might be advised to include Key Competencies and Levels in this section

Underpinning Knowledge	**Underpinning Skills**
• Safety regulations/requirements, equipment, material and personal safety requirements • Tool and equipment selection procedures • Basic maintenance procedures for tooling and equipment • Tool and equipment safety and operating procedures • Types, characteristics, uses and limitations of hand tooling	• Demonstrate understanding of workplace safety • Identify appropriate tools and equipments • Undertake maintenance of tools and equipments used in the workplace • Operate tools and equipments safely

• Types, characteristics, uses and limitations of power tooling • Types, characteristics, uses and limitations of workplace equipment	

Unit 4

UNIT TITLE	Undertake basic workshop calculation				
DESCRIPTOR	This unit includes identifying caring, handling and use of measuring instruments.				
CODE	TRN01S1U04V1	LEVEL	1	CREDIT	3

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Select measuring instruments	1.1. Object or component to be measured identified 1.2. Correct specifications from relevant sources obtained 1.3. Appropriate measuring instrument according to job requirements selected
2. Carry out measurements and calculation	2.1 Measuring tools in line with job requirements selected 2.2 Accurate measurements related to the job undertook 2.3 Appropriate calculations to complete work tasks using the four basic process of addition (+), subtraction (-), multiplication (x) and division (/) performed 2.4 Calculations involving fractions, percentages and mixed numbers are used to complete workplace tasks performed 2.5 Numerical computation and correct for accuracy checked 2.6 Instruments to the limit of accuracy of the tool read
3. Maintain measuring instruments	3.1 Measuring instruments protected from corrosion 3.2 Measuring instruments properly handed, to avoid dropping or damage 3.3 Measuring instruments cleaned before and after using

Range Statement

Measuring instruments includes:

- Multitester
- Micrometer (In-out, depth)
- Vernier caliper (Out, inside)
- Dial Gauge with Mag. Std.
- Plastigauge
- Straight Edge

- Thickness gauge

- Torque Gauge
- Small Hole gauge
- Telescopic Gauge
- Try square
- Protractor
- Combination gauge
- Steel rule of machines on level and incline planes

Specific requirements may include hydraulic jacks, air bags and overhead cranes for lifting heavy machines

In calculation, kinds of Part Mensuration include:

- Volume
- Area
- Displacement
- Inside diameter
- Circumference
- Length
- End play/thrust clearance
- Thickness
- Outside diameter
- Taper
- Out of roundness
- Oil clearance

Tools, equipment and materials used in this unit may include

- All the above measuring instruments.
- Appropriate materials for measuring.

ASSESSMENT GUIDE

Forms of assessment
Assessments of the workshop measuring instruments need to be undertaken in a real or simulated working environment using existing workplace tools.

Assessment context
Competency elements must be assessed in a safe working environment

Assessment may be conducted in a workplace or simulated environment

Critical aspects (for assessment)
Assessment requires evidence that the candidate:

- Selected measuring instruments
- Carried-out measurements and calculations
- Maintained measuring instruments

Assessment conditions
Competency must be assessed through:

- Observation with questioning
- Written or oral examination
- Interview
- Demonstration with questioning

Special notes for assessment
Attempts need to be made in completing measurements in all the measuring instruments mentioned in the unit.

Resources required for assessment
The following resources must be provided:

- Workplace location
- Measuring instrument appropriate to servicing processes
- Instructional materials relevant to the propose activity

Underpinning Knowledge and Skills

Analyst groups might be advised to include Key Competencies and Levels in this section

Underpinning Knowledge	**Underpinning Skills**
• Types of Measuring instruments and its uses • Safe handling procedures in using measuring instruments • Four fundamental operation of mathematics • Formula for Volume, Area, Perimeter and other geometric figures	• Caring and Handling measuring instruments • Calibrating and using measuring instruments • Performing calculation by Addition, Subtraction, Multiplication and Division • Visualizing objects and shapes • Interpreting formula for volume, area, perimeter and other geometric figures

Unit 5

UNIT TITLE	Perform effective workplace communication				
DESCRIPTOR	This unit covers the competence to communicate in the workplace by oral, written and electronic means.				
CODE	TRN01S1U05V1	LEVEL	3	CREDIT	3

ELEMENTS OF COMPETENCIES	**PERFORMANCE CRITERIA**
1. Write routine texts	1.1. Routine texts of one or more sentences composed in accordance with workplace requirements 1.2. Routine forms completed in accordance with workplace requirements 1.3. Spelling, punctuation and grammar rules followed 1.4. Texts self-checked for accuracy and presented for progress checks by relevant persons
2. Read routine documents	2.1 Purpose of the text understood and described 2.2 Main points or ideas presented described 2.3 New technical words comprehended 2.4 The meaning of key words and phrases explained
3. Contribute to workplace communications	3.1 Information accessed to ensure effective communication when sending or receiving information 3.2 Assistance provided to colleagues in the workplace , to foster common understanding 3.3 Requests for information from colleagues met 3.4 Documents kept and maintained in accordance with workplace/enterprise procedures and Government legislation
4. Apply basic computer skills	4.1 Computer turned on according to manufacturer/ component supplier specifications or workplace procedures 4.2 Software loaded or selected from menu 4.3 File identified and selected or new file produced 4.4 Information entered, edited or deleted using an input device and within workplace designated speed and accuracy requirements 4.5 Document saved regularly to avoid loss of information

	4.6 Document proof read and amended for accuracy 4.7 Document produced in required style and format 4.8 Document printed 4.9 Files saved and closed and program closed or exited according to manufacturer/component supplier specifications or workplace procedures 4.10 Computer turned off according to manufacturer/ component supplier specifications or workplace procedures 4.11 Workplace guidelines relating to screen-based equipment and computer workstations observed
5. Operate workplace telephone systems	5.1 Telephone system functions used according to enterprise policy 5.2 Outgoing calls completed in accordance with manufacturer instructions and enterprise policy and procedures 5.3 Incoming calls answered promptly and in accordance with enterprise policy and procedures 5.4 Calls transferred or placed on hold 5.5 Caller kept informed of delays and action being taken 5.6 Caller details and purpose of call obtained and documented 5.7 Messages documented and calls promptly returned if required

Range Statement

- Enterprise may vary in size, type and location, the range of work activities conducted, hours of operation and the number and type of staff
- Staff may work in teams or groups of varying size and structure
- Communication may include face-to-face, telephone, written or electronic means
- Staff must be aware of industry codes.

Tools, equipment and materials used in this unit may include

- Computers and Telephones
- Enterprise policies and procedures relating to workplace forms and documents, computer, telephone use and system operating procedures and necessary industry codes if available.

ASSESSMENT GUIDE

Forms of assessment

Assessment for the unit needs to be a holistic one and must include real or simulated workplace activities.

Assessment context

Elements of competence contain both knowledge and practical components. Knowledge components may be assessed off the job. Practical components should be assessed on the job or in a simulated work environment

Evidence is best gathered using the products, processes and procedures of the workplace as the means by which the candidate achieves industry competencies

Critical aspects (for assessment)

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

- Writing short routine texts using correct spelling, punctuation and grammar
- Reading, interpreting and applying routine texts in the workplace
- Interpreting and conveying workplace information
- Maintaining workplace communications, including documents
- Applying keyboard skills to prepare and/or edit simple documents using a computer
- Applying enterprise requirements for document style and format
- Applying enterprise requirements for electronic storage and retrieval of documents
- Applying enterprise procedures for incoming and outgoing telephone calls

Assessment conditions

It is preferable that assessment reflects a process rather than an event and occurs over a period of time to cover the varying circumstances. Evidence of performance may be provided by customers, team leaders/members or other appropriate persons, subject to agreed authentication arrangements

Special notes for assessment

- Enterprise may vary in size, type and location, the range of work activities conducted, hours of operation and the number and type of staff
- Staff may work in teams or groups of varying size and structure
- Communication may include face-to-face, telephone, written or electronic means

Resources required for assessment

- A workplace or simulated workplace
- documentation, such as enterprise or sample policies and procedures manuals related to workplace document style, format and layout, workplace communication procedures, workplace documents, telephone protocols and operating procedures, computer system operating procedures
- Enterprise or sample stationery, documents and forms
- Access to enterprise or similar computer hardware and software
- Access to enterprise or similar telephone system

UNDERPINNING KNOWLEDGE AND SKILLS

Underpinning Knowledge	**Underpinning Skills**
• General knowledge of enterprise forms, documents and stationery • Operational knowledge of enterprise policies and procedures in regard to: ➢ workplace document style, format and layout ➢ workplace communication procedures ➢ workplace documents ➢ telephone protocols and operating	• Appropriate skills in handling enterprise forms, documents and stationery • Skills in handling the following: ➢ workplace document style, format and layout ➢ workplace communication procedures ➢ workplace documents ➢ telephone protocols and operating procedures

procedures ➢ computer system operating procedures	

Unit 6

UNIT TITLE	Move, position and park vehicle				
DESCRIPTOR	This competency unit covers the knowledge, skills and attitude needed to move and position vehicle in a workshop.				
CODE	TRN01S2U01V1	LEVEL	3	CREDIT	3

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Prepare vehicle for driving	1.1. Correct check-up procedures on vehicle manufacturer standard performed
2. Move, position and park vehicle	2.1 Vehicle to be moved, park or re-position selected 2.2 Vehicle to appropriate location driven 2.3 Vehicle parked according to parking safety techniques and procedure
3. Check the vehicle	3.1 Vehicle position as per required checked 3.2 Vehicle for external damages checked

Range Statement

Check up procedures include the following

- Oil level
- Brake fluid
- Clutch fluid
- Coolant level
- Battery (electrolyte)
- Tire pressure
- Position of driving gear
- Lighting and warning devices

Vehicles

- Vehicles with automatic transmission

- Vehicles with manual transmission

Parking safety Techniques

- Engaging of Park brake
- Vehicle parking position
- Front wheel position

Tools, equipment and materials used in this unit may include

- Vehicles with automatic transmission
- Vehicles with manual transmission

ASSESSMENT GUIDE

Forms of assessment

Assessment for the unit needs to be a holistic one and must include real or simulated workplace activities.

Assessment context

Assessment of practical skills must be done in a workplace or simulated environment.

Critical aspects (for assessment)

Assessment requires evidence that the candidate:

- Prepared vehicle for driving.
- Moved and positioned vehicle
- Checked the vehicle.

Assessment conditions

Competency must be assessed through:

- Observation with questioning
- Written or oral examination of the driving rules and procedures.

Special notes for assessment

Students can drive both manual and automatic transmission vehicles.

Resources required for assessment

The following resources must be provided:

- Driving range/area
- Appropriate vehicle for driving

- Vehicle accessories

UNDERPINNING KNOWLEDGE AND SKILLS

Analyst groups might be advised to include Key Competencies and Levels in this section

Underpinning Knowledge	**Underpinning Skills**
• Workshop signs and symbols • Driving rules and procedures • Vehicle accessories for safe driving and parking	• Ability to handle vehicle/maneuver vehicle the easiest way • Immediate response to accident • Preparing vehicle for driving • Parking Downhill, Uphill, Parallel • Shifting Gears • Maneuvering

Unit 7

UNIT TITLE	Wash/clean vehicle body and its interior				
DESCRIPTOR	This unit covers the competence required to wash vehicle body exterior, interior and clean door jambs, boot and bonnet surrounds and inner sill panels. The unit includes identification and confirmation of work requirement, preparation for work, washing/cleaning of vehicle body and door cavities and completion of work finalisation processes, including clean-up and documentation.				
CODE	TRN01S2U02V1	LEVEL	3	CREDIT	3

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Wash/clean vehicle body exterior	1.1. Tooling and equipment selected and used according to workplace methods and customer requirements 1.2. Cleaning and protection agents selected and used according to vehicle finish type, workplace methods and product manufacturer/component supplier recommended applications 1.3. Vehicle body exterior washed and cleaned according to workplace/customer and product manufacturer/component supplier prescribed methods and procedures 1.4. Washing/cleaning completed without causing damage to component or system 1.5. Vehicle body exterior washed and cleaned according to industry standards/regulations/guidelines, safety requirements, legislation and enterprise procedures/ policies 1.6. Cleaning and protection agents stored according to manufacturer/component supplier recommendations and regulatory requirements
2. Wash/clean door jambs, boot and bonnet surrounds inner sill panels and	2.1 Tooling and equipment selected and used according to workplace methods and customer requirements

underbody	2.2 Cleaning/protection agents selected and used according to vehicle finish type, workplace methods and product manufacturer/component supplier recommended applications 2.3 Vehicle body door/boot cavities washed and cleaned according to workplace/customer and product manufacturer/component supplier prescribed methods and procedures 2.4 Washing/cleaning completed without causing damage to component or system 2.5 Vehicle door jambs, boot and bonnet surrounds and inner sills washed and cleaned according to industry standards/ regulations/guidelines, safety requirements, legislation and enterprise procedures/policies 2.6 Cleaning/protection agents stored according to manufacturer/component supplier recommendations and regulatory requirements
3. Clean vehicle interior trim and seats	3.1 Tooling and equipment selected and used according to workplace methods and customer requirements 3.2 Cleaning agents selected according to trim and seat fabric type, workplace methods and product/fabric manufacturer/component supplier recommendations 3.3 Cleaning agents used and stored according to manufacturer/component supplier recommendations and regulatory requirements 3.4 Interior trim and seats cleaned according to workplace/ customer and product/fabric manufacturer/component supplier prescribed methods and procedures 3.5 Cleaning completed without causing damage to component or system 3.6 Interior trim and seats cleaned according to

	industry standards, safety requirements, legislation and enterprise procedures/policies

Range Statement

Vehicle body and door cavities are to include body exterior, door jambs, boot and bonnet surrounds and inner sill panels

Trim and seats are to include:

- Leather, wood, wool, vinyl, plastic, poly-carbonates and fabric trim and seats
- Carpet, rubber/composite material floor covers
- Vehicle interior and boot/luggage/storage compartments

Methods are to include manual or machine assisted cleaning and finishing

Work requires individuals to demonstrate judgment and problem-solving skills in managing own work activities and contributing to a productive team environment

Tools, equipment and materials used in this unit may include

Tooling and equipment may include tooling and equipment to clean body exterior and door/boot cavities, including pressure cleaning equipment

Materials may include cleaning and surface protection agents

ASSESSMENT GUIDE

Forms of assessment

Assessment for the unit needs to be a holistic one and must include real or simulated workplace activities.

Assessment context

Application of competence is to be assessed in the workplace or simulated worksite

Assessment is to occur using standard and authorised work practices, safety requirements and environmental constraints

Critical aspects (for assessment)

A working knowledge of:

- Safety regulations/requirements, equipment, material and personal safety requirements
- Environmental requirements for storage, handling and disposal of substances
- Material safety data sheets
- Cleaning/body protection agents and their recommended applications
- Washing and cleaning procedures for vehicle body exterior, door jambs, boot and bonnet surrounds and inner sill panels
- Cleaning agents and their recommended applications
- Finishing agents and their recommended applications
- Types of trim/components, including seats carpets, mats, dash, arm rests, consoles, door trim
- Cleaning and finishing procedures for vehicle interior trim and seats
- Work organisation

Assessment conditions

Assessment must be by direct observation of tasks, with questioning on underpinning knowledge and it must also reinforce the integration of key competencies

Assessment may be applied under project-related conditions and require evidence of process

Special notes for assessment

It is preferable that assessment reflects a process rather than an event and occurs over a period of time to cover varying quality circumstances.

Resources required for assessment

- Workplace location or simulated workplace
- Materials relevant to the washing/cleaning of vehicle bodies
- Equipment, hand and power tooling appropriate to the washing/cleaning of vehicle bodies
- Materials relevant to the cleaning and finishing of vehicle interior trim and seats
- Equipment, hand and power tooling appropriate to the cleaning and finishing of vehicle interior trim and seats

UNDERPINNING KNOWLEDGE AND SKILLS

Underpinning Knowledge	**Underpinning Skills**
• A working knowledge of: ➢ material safety data sheets ➢ cleaning agents and their recommended applications ➢ washing and cleaning procedures for vehicle body exterior, door jambs, boot and bonnet surrounds and inner sill panels ➢ finishing agents and their recommended applications ➢ types of trim/components, including seats carpets, mats, dash, arm rests, consoles, door trim ➢ cleaning and finishing procedures for vehicle interior trim and seats	• Develop skills in the following: ➢ Work safely ➢ Identify and select appropriate tools ➢ Identify and select appropriate chemicals and cleaning agents ➢ Operate washing and cleaning machines safely ➢ Wash vehicles in accordance with the requirements of various types and their applications ➢ Clean vehicles in accordance with the requirements of various types and their applications

Unit 8

UNIT TITLE	Perform effectively in team environment				
DESCRIPTOR	This unit covers the skills, knowledge and attitudes to identify role and responsibility as a member of a team.				
CODE	TRN01S1U06V1	LEVEL	3	CREDIT	3

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Describe team role and scope	1.1. Role and objective of the team identified 1.2. Team parameters, reporting relationships and responsibilities identified from team discussions and appropriate external sources
2. Identify own role and responsibility within team	2.1 Individual roles and responsibilities within the team environment identified 2.2 Roles and responsibilities of other team members identified and recognized 2.3 Reporting relationships within team and external to team identified
3. Work as a team member	3.1 Team spirits maintained 3.2 Protocols in reporting applied using standard operating procedures

Range Statement

Role and objective of team

- Work activities in a team environment with enterprise or specific sector
- Limited discretion, initiative and judgment maybe demonstrated on the job, either individually or in a team environment

Sources of information

- Standard operating and/or other workplace procedures

- Job procedures
- Machine/equipment manufacturer's specifications and instructions
- Organizational or external personnel
- Client/supplier instructions
- Quality standards
- Workplace safety and environmental standards

Workplace context

- Work procedures and practices
- Conditions of work environments
- Standard work practice including the storage, safe handling and disposal of chemicals
- Safety, environmental, housekeeping and quality guidelines

Tools, equipment and materials used in this unit may include

Nil

ASSESSMENT GUIDE

Forms of assessment

Assessment for the unit needs to be a holistic one and must include real or simulated workplace activities.

Assessment context

Competency may be assessed in workplace or in a simulated workplace setting

Assessment shall be observed while task are being undertaken whether individually or in group.

Assessment shall be observed while task are being undertaken whether individually or in group

Critical aspects (for assessment)

Assessment requires evidence that the candidate:

- Operated in a team to complete workplace activity
- Worked effectively with others
- Conveyed information in written or oral form
- Selected and used appropriate workplace language
- Followed designated work plan for the job
- Reported outcomes

Assessment conditions

Competency may be assessed through:

- Observation of the individual member in relation to the work activities of the group
- Observation of simulation and or role play involving the participation of individual member to the attainment of organizational goal
- Case studies and scenarios as a basis for discussion of issues and strategies in teamwork

Special notes for assessment

Data for the assessment can be collected from the supervisors, colleagues and clients.

Resources required for assessment

The following resources MUST be provided:

- Access to relevant workplace or appropriately simulated environment where assessment can take place
- Materials relevant to the proposed activity or tasks

UNDERPINNING KNOWLEDGE AND SKILLS

Underpinning Knowledge	**Underpinning Skills**
• Communication process • Team structure • Team roles • Group planning and decision making	• Communicate appropriately, consistent with the culture of the workplace

Unit 9

UNIT TITLE	Undertake inspection and servicing engines				
DESCRIPTOR	This unit covers the competence required to carry out the inspection and service of two and four stroke spark ignition and two and four stroke compression ignition engines.				
CODE	TRN01S2U03V1	LEVEL	3	CREDIT	3

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Prepare to undertake the inspection of engines	1.1. Nature and scope of work requirements identified and confirmed 1.2. Safety requirements, including individual workplace regulatory requirements and personal protection needs throughout the work observed 1.3. Requirements and source procedures and information such as workshop manuals and specifications, and tooling identified. 1.4. Methods appropriate to the circumstances and prepared in accordance with standard operating procedures selected 1.5. Resources required for inspection of engine systems and support equipments identified and sourced 1.6. Warnings in relation to working with engine systems observed
2. Conduct engine system inspections and analyze results	2.1 Engine systems in accordance with workplace procedures and manufacturer/component supplier specifications for engine servicing inspected 2.2 Engines started 2.3 Engines run up to operating temperature 2.4 Leaks, abnormal noises and pressures inspected 2.5 Engine oil, idle speed and acceleration, fuel tank and fuel pipes for loose, fan belt tension and damage, engine coolant concentration and level, cooling system for leakage, exhaust pipes mounts for loose and

	damage, engine operating conditions and engine mounts and mounting bolts checked 2.6 Results with manufacturer/component supplier specifications to indicate compliance or non-compliance analysed and compared 2.7 Documentation of the results undertaken with evidence and supporting information and recommendation(s) are made 2.8 Report results in accordance with workplace procedures
3. Prepare to service engines	3.1 Safety requirements, including individual workplace safety requirements and personal protection throughout the work observed 3.2 Procedures and information requirements identified and sourced 3.3 Appropriate tools identified and selected 3.4 Resources required for servicing and identify and prepare support equipments identified
4. Carry out servicing	4.1 Servicing jobs in accordance with workplace procedures and manufacturer/component supplier specifications observed 4.2 Engine oil, oil filter, fuel filter replaced 4.3 Valve Clearance adjusted 4.4 Cylinder head bolts and other loose bolts tightened to correct torque
5. Prepare vehicle for use or storage	5.1 Complete servicing schedules documented 5.2 Final inspection to ensure protective guards and safety features in place undertook 5.3 Final inspection to ensure work completed to workplace expectations undertook 5.4 Vehicle cleaned for use or storage to workplace expectations

Range Statement

Inspection and servicing of engines includes the assessment and adjustment/replacement of components in accordance with specifications including those associated with light vehicles.

It includes four stroke spark ignition, two stroke spark ignition and four stroke compression ignition

Tools, equipment and materials used in this unit may include

- Tooling and equipment may include hand tooling, meters, gauges, load testing devices and oil sample analysis equipment
- Material may include oils, lubricants, sealants, filters and cleaning material.

ASSESSMENT GUIDE

Forms of assessment

Competence in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role.

Assessment context

Application of competence is to be assessed in the workplace or simulated worksite

Assessment is to occur using standard and authorized work practices, safety requirements and environmental constraints

Assessment is to comply with individual workplace requirements.

Critical aspects (for assessment)

It is essential that competence in this unit signifies ability to transfer competence to changing circumstances and to respond to unusual circumstances in the critical aspects of:

- Observing safety procedures and requirements
- Communicating effectively with others involved in or affected by the work
- Selecting methods and techniques appropriate to the circumstances
- Completing preparatory activity in a systematic manner
- Accurately inspecting and documenting and interpreting analysis results
- Conducting inspection and servicing of a range of engines in accordance with workplace and manufacturer/component supplier requirements and specifications
- Completing the work within workplace timeframes
- Equipment is presented to customer in compliance with workplace requirements

Assessment conditions

It is preferable that assessment reflects a process rather than an event and occurs over a period of time to cover varying quality circumstances.

Special notes for assessment

Evidence of performance may be provided by customers, team leaders/members or other persons subject to agreed authentication arrangements.

Resources required for assessment

- Workplace location or simulated workplace
- Material relevant to the inspection and servicing of engines
- Equipment, hand and power tooling appropriate to the inspection and servicing of engines
- Activities covering mandatory task requirements
- Specifications and work instructions.

UNDERPINNING KNOWLEDGE AND SKILLS

Underpinning Knowledge	**Underpinning Skills**

• Safety and environmental regulations/requirements, equipment, material and personal safety requirements
• Dangers of working with engines
• Operating principles of engines, lubrication, cooling and fuel systems and their relationship to each other
• Types and layout of service/repair manuals
  ➢ inspection procedures
  ➢ service procedures
  ➢ enterprise quality procedures
  ➢ work organization and planning processes
	• Work safely with equipments
	• Observe personal safety and safety of others
	• Work safely with engines
	• Identify all the major engine components
	• Undertake inspection, adjust, drain, replace or change and tighten relevant engine parts
	• Competent to read and understand service/repair manuals

Unit 10

UNIT TITLE	Undertake inspection and servicing cooling systems				
DESCRIPTOR	This unit covers the competence required to carry out the inspection and service of air and liquid cooling systems in an automotive service and/or repair context				
CODE	TRN01S2U04V1	LEVEL	3	CREDIT	3

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Prepare to undertake the inspection of cooling systems	1.1. Nature and scope of work requirements identified and confirmed 1.2. Safety requirements, including individual workplace regulatory requirements and personal protection needs throughout the work observed 1.3. Procedures and information such as workshop manuals and specifications, and tooling required sourced 1.4. Methods appropriate to the circumstances selected and prepared in accordance with standard operating procedures 1.5. Resources required for cooling system inspection sourced and support equipment identified and prepared 1.6. Warnings in relation to working with pressurised cooling systems observed
2. Inspect cooling systems and analyse results	2.1 Cooling systems inspection implemented in accordance with workplace procedures and manufacturer/component supplier specifications 2.2 Results compared with manufacturer/component supplier specifications to indicate compliance or non-compliance. 2.3 Results documented with evidence and supporting information and recommendation(s) made 2.4 Report processed in accordance with workplace procedures
3. Prepare to service	3.1 Safety requirements, including individual workplace

cooling systems	regulatory requirements and personal protection needs observed throughout the work 3.2 Procedures and information required identified and sourced 3.3 Resources required for servicing cooling systems identified and support equipment identified and prepared
4. Carry out servicing	4.1 Service implemented in accordance with workplace procedures and manufacturer/component supplier specification 4.2 Adjustments made during the service in accordance with manufacturer/component supplier specifications 4.3 Flushing and filling of the coolant carried out
5. Prepare equipment for use or storage	5.1 Servicing schedule documentation completed 5.2 Final inspection made to ensure protective guards, safety features and cowlings are in place 5.3 Final inspection made to ensure work to meet workplace standards 5.4 Equipment cleaned for use or storage to meet workplace expectations

Range Statement

Servicing to include fluids, filters, adjustments and operational testing, visual inspections and documents

Methods include:

- Visual, aural and functional assessments (including, damage, corrosion, fluid levels/leaks, wear)

Specific requirements:

- Fluid cooled systems, air cooled systems, combination systems

Other variables may include:

- thermostats, water pumps, hoses, ducting, fans, drive belts, heat exchanger, electric and viscous fans, sealed and non-sealed systems, interior heater and coolant heater manifold
- Ferrous and non ferrous metals
- Keel cooling, heat exchanger, raw water cooling, sacrificial anodes
- Cooling system additives

Tools, equipment and materials used in this unit may include

- Tooling and equipment may include hand tooling, meters, gauges and pressure testing devices
- Materials may include coolant, spare parts and cleaning material

ASSESSMENT GUIDE

Forms of assessment

Assessment for the unit needs to be a holistic one and must include real or simulated workplace activities.

Assessment context

Application of competence is to be assessed in workplace or simulated worksite

Assessment is to occur using standard and authorized work practices, safety requirements and environmental constraints.

Critical aspects (for assessment)

It is essential that competence in this unit indicates the ability to apply competence to changing circumstances and to respond to unusual circumstances in the critical aspects of:

- Observing safety procedures and requirements
- Communicating effectively with others involved in or affected by the work
- Selecting methods and techniques appropriate to the circumstances
- Completing preparatory activity in a systematic manner
- Accurately interpreting analysis results
- Identification of application, purpose and operating principles
- Conducting inspection, servicing and operational testing in accordance with workplace and manufacturer/component supplier specifications
- Completing service of cooling systems and associated components within workplace timeframes
- Equipment is presented to customer in compliance with workplace requirements

Assessment conditions

Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge

Assessment must be by direct observation of tasks, with questioning on underpinning knowledge and it must also reinforce the integration of key competencies

Assessment may be applied under project related conditions and require evidence of process

Assessment must confirm a reasonable inference that competence is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances

Special notes for assessment

It is preferable that assessment reflects a process rather than an event and occurs over a period of time to cover varying quality circumstances. Evidence of performance may be provided by customers, team leaders/members or other persons subject to agreed authentication arrangements

Resources required for assessment

The following resources should be made available:

- Workplace location or simulated workplace
- Material relevant to the inspection and servicing of cooling systems
- Equipment, hand and power tooling appropriate to the inspection and servicing of cooling systems
- Activities covering mandatory task requirements
- Specifications and work instructions

UNDERPINNING KNOWLEDGE AND SKILLS

Underpinning Knowledge	**Underpinning Skills**
• Workplace safety and environmental regulations/requirements, equipment, material and personal safety requirements • Dangers of working with coolants • Identification of application, purpose and operating principles • Inspection procedures • Types and layout of service/repair manuals (hard copy and electronic) • Cooling system service procedures	• Safe working skills • Identification of cooling system components • Undertake inspection and servicing of cooling system components • Read and use service literature

Unit 11

UNIT TITLE	Undertake petrol fuel systems servicing				
DESCRIPTOR	This unit covers the competence required to carry out servicing on mechanical and electric/electronic petrol fuel system/components in an automotive service and/or repair context. The unit includes identification and confirmation of work requirement, preparation for work, servicing of petrol fuel system components and completion of work finalisation processes, including clean-up and documentation. The competence does not include electronic fuel injection or electronic engine management systems				
CODE	TRN01S2U05V1	LEVEL	3	CREDIT	3

ELEMENTS OF COMPETENCIES	**PERFORMANCE CRITERIA**
1. Prepare to service petrol fuel system components	1.1. Nature and scope of work requirements identified and confirmed 1.2. Safety requirements, including individual workplace regulatory requirements and personal protection needs observed throughout the work 1.3. Procedures and information such as workshop manuals and specifications, and tooling required sourced 1.4. Methods appropriate to the circumstances selected and prepared in accordance with standard operating procedures 1.5. Resources required for servicing sourced and support equipment identified and prepared 1.6. Warnings in relation to working with petrol observed
2. Service petrol fuel system components	2.1 Correct information accessed and interpreted from manufacturer/component supplier specifications 2.2 Idle speed and acceleration inspected 2.3 Fuel tank and fuel pipes inspected for loose 2.4 Service of petrol fuel system/components carried out in accordance with manufacturer/component supplier specifications

	2.5 Petrol fuel system components service completed without causing damage to any component or system 2.6 Adjustments made during the service in accordance with manufacturer/component supplier specifications 2.7 Engine run and petrol fuel system tested for correct operation
3. Prepare fuel system for normal operation	3.1 Service schedule documentation completed 3.2 Final inspection made to ensure safety features in place 3.3 Final inspection made to ensure work is to workplace expectations 3.4 Job card processed in accordance with workplace procedures

Range Statement

Unit scope:

- Servicing procedures may be performed on petrol fuel systems in light vehicles and outdoor power equipment
- Systems may be two stroke and/or four stroke, spark ignition fuel systems
- Components include carburettors (all positions, electronic, fixed venturi, variable venturi), fuel pumps, mechanical and electrical

Methods are to include:

- aural, visual and functional assessments (including damage, corrosion, fluid leaks, wear and safety aspects)

Tools, equipment and materials used in this unit may include

- Tooling and equipment may include hand tooling, power tooling, exhaust gas analyzer, vacuum gauge, pressure gauge tachometer and multimeter.
- Materials may include oils and lubricants, minor spare parts and cleaning material

ASSESSMENT GUIDE

Forms of assessment

Assessment for the unit needs to be a holistic one and must include real or simulated workplace activities.

Assessment context

Application of competence is to be assessed in workplace or simulated worksite

Assessment is to occur using standard and authorized work practices, safety requirements and environmental constraints

Critical aspects (for assessment)

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

- Observing safety procedures and requirements
- Communicating effectively with others involved in or affected by the work
- Selecting methods and techniques appropriate to the circumstances
- Completing preparatory activity in a systematic manner
- Accurately interpreting the service schedules
- Conducting the service of a range of petrol fuel systems in accordance with workplace and Manufacturer/component supplier requirements
- Completing work in the agreed timeframe
- Completing workplace/equipment documentation

Assessment conditions

Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge

Assessment must be by direct observation of tasks, with questioning on underpinning knowledge and it must also reinforce the integration of key competencies

Assessment may be applied under project related conditions and require evidence of process

Special notes for assessment

It is preferable that assessment reflects a process rather than an event and occurs over a period of time to cover varying quality circumstances. Evidence of performance may be provided by customers, team leaders/members or other persons subject to agreed authentication arrangements.

Resources required for assessment

The following resources should be made available:

- Workplace location or simulated workplace
- Material relevant to servicing petrol fuel systems
- Equipment, hand and power tooling appropriate to servicing petrol fuel systems
- Activities covering mandatory task requirements
- Specifications and work instructions

UNDERPINNING KNOWLEDGE AND SKILLS

Underpinning Knowledge	**Underpinning Skills**
• Safety regulations/requirements, equipment, material and personal safety requirements • Dangers of working with petrol • Mechanical and electronic fuel systems • Service procedures • Vehicle safety procedures • Types and layout of service/repair manuals (hard copy and electronic) • Workplace quality procedures	• Work safely • Identify parts • Service parts as per the requirement • Read manuals

Unit 12

UNIT TITLE	Service diesel fuel system				
DESCRIPTOR	This unit covers competence required for servicing diesel fuel system				
CODE	TRN01S2U06V1	LEVEL	3	CREDIT	3

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Prepare to service diesel fuel system components	1.1. Nature and scope of work requirements identified and confirmed 1.2. Safety requirements, including individual workplace regulatory requirements and personal protection needs observed throughout the work 1.3. Procedures and information such as workshop manuals and specifications, and tooling required sourced 1.4. Methods appropriate to the circumstances selected and prepared in accordance with standard operating procedures 1.5. Resources required for servicing sourced and support equipment is identified and prepared 1.6. Warnings in relation to working with diesel observed
2. Service diesel fuel system components	2.1 Correct information accessed and interpreted from manufacturer/component supplier specifications 2.2 Idle speed and acceleration inspected and if necessary, corrected. 2.3 Fuel tank and fuel pipes for loose inspected and if necessary, corrected. 2.4 Fuel filters inspect and if necessary replaced. 2.5 Service of diesel fuel system/components carried out in accordance with manufacturer/component supplier specifications 2.6 Diesel fuel system components service completed without causing damage to any component or system 2.7 Adjustments made during the serviced in accordance with manufacturer/component supplier specifications

	2.8 Engine run and diesel fuel system tested for correct operation
3. Prepare fuel system for normal operation	3.1 Venting of the fuel system carried out 3.2 Service schedule documentation completed 3.3 Final inspection made to ensure safety features in place 3.4 Final inspection made to ensure work is to workplace expectations 3.5 Job card processed in accordance with workplace procedures

Range Statement

Unit scope

- Servicing procedures may be performed on diesel fuel systems in light vehicles and out door power equipment
- Components include fuel injection pumps, fuel filters, fuel lift pumps; mechanical and electrical.

Methods are to include:

- Aural, visual and functional assessments (including damage, corrosion, fluid leaks, wear and safety aspects)

Tools, equipment and materials used in this unit may include

Tooling and equipment may include hand tooling, power tooling, exhaust gas analyzer, vacuum gauge, pressure gauge tachometer and multimeter.

Materials may include oils and lubricants, minor spare parts and cleaning material

ASSESSMENT GUIDE

Forms of assessment

Assessment for the unit needs to be a holistic one and must include real or simulated workplace activities.

Assessment context

Application of competence is to be assessed in workplace or simulated worksite

Assessment is to occur using standard and authorized work practices, safety requirements and environmental constraints

Critical aspects (for assessment)

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

- Observing safety procedures and requirements
- Communicating effectively with others involved in or affected by the work
- Selecting methods and techniques appropriate to the circumstances
- Completing preparatory activity in a systematic manner
- Accurately interpreting the service schedules
- Conducting the service of a range of diesel fuel systems in accordance with workplace and Manufacturer/component supplier requirements
- Completing work in the agreed timeframe
- Completing workplace/equipment documentation

Assessment conditions

Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge

Assessment must be by direct observation of tasks, with questioning on underpinning knowledge and it must also reinforce the integration of key competencies

Assessment may be applied under project related conditions and require evidence of process

Special notes for assessment

It is preferable that assessment reflects a process rather than an event and occurs over a period of time to cover varying quality circumstances. Evidence of performance may be provided by customers, team leaders/members or other persons subject to agreed authentication arrangements.

Resources required for assessment

The following resources should be made available:

- Workplace location or simulated workplace
- Material relevant to servicing diesel fuel systems

- Equipment, hand and power tooling appropriate to servicing petrol fuel systems
- Activities covering mandatory task requirements
- Specifications and work instructions

UNDERPINNING KNOWLEDGE AND SKILLS

Analyst groups might be advised to include Key Competencies and Levels in this section

Underpinning Knowledge	**Underpinning Skills**
• Safety regulations/requirements, equipment, material and personal safety requirements • Dangers of working with diesel • Mechanical and electronic fuel systems • Service procedures • Vehicle safety procedures • Types and layout of service/repair manuals (hard copy and electronic) • Workplace quality procedures	• Work safely • Identify parts • Service parts as per the requirement • Read manuals

Unit 13

UNIT TITLE	Service ignition system components				
DESCRIPTOR	This competency unit includes inspecting and servicing ignition system components.				
CODE	TRN01S2U07V1	LEVEL	3	CREDIT	3

ELEMENTS OF COMPETENCIES	**PERFORMANCE CRITERIA**
1. Identify Ignition System Components	1.1. All the ignition system parts identified
2. Check Ignition System	2.1 Appropriate inspection of spark plug, contact points, rotor, distributor cap, ignition switch carried out
3. Service Ignition Parts	3.1 Spark plugs for ignition inspected and serviced 3.2 Spark plugs with appropriate procedures removed and installed

Range Statement

Ignition System components/parts includes:

- Spark plug
- Contact Point
- Rotor
- Distributor Cap
- Ignition switch
- Conventional ignition system.
- Magneto system (not including system associated with electronics engine management)

Other variables may include:

- Single and dual points, single and multiple distributors, ballast and non-ballast primary circuits, Suppressed and non-suppressed high tension leads.

- Advanced mechanism (both mechanical and vacuum operated)
- CDI and magnetic pulse

Tools, equipment and materials used in this unit may include

- Hand tools and Power tools, air tools.
- Testing equipment including:
- Multimeter
- Ohmmeter
- Voltmeter
- Tachometer
- Spark plug cleaner/tester

Actual vehicle equipped with conventional ignition System

ASESSMENT GUIDE

Forms of assessment

Assessment for the unit needs to be a holistic one and must include real or simulated workplace activities.

Assessment context

Competency must be assessed on the job or simulated environment.

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

Critical aspects (for assessment)

Assessment requires evidence that the candidate:

- Checked and Serviced Ignition System
- Tested ignition system/components

Assessment conditions

Competency must be assessed through:

- Direct observation
- Written/Oral questions

Special notes for assessment

At the end of the unit, must have developed knowledge and skills in identifying and checking ignition system components, their performance and identification of basic faults.

Resources required for assessment

The following resources must be provided:

- Work place location
- Tools and equipment appropriate to servicing processes
- Materials relevant to the proposed activity
- Drawings and specifications relevant to the task

UNDERPINNING KNOWLEDGE AND SKILLS

Underpinning Knowledge	**Underpinning Skills**
• Ignition system construction and operation appropriate to application • Measuring and testing procedures • Vehicles, equipment and personal safety requirements • Work Values (Perseverance , Honesty, Attention to Details, Patience)	• Using tools when testing and repairing ignition system • Using ignition system test instrument and equipment • Observing proper procedures

Unit 14

UNIT TITLE	Inspect and service steering systems components				
DESCRIPTOR	This unit covers the competence required carry out the inspection and servicing of steering systems and associated components in a light vehicle.				
CODE	TRN01S2U08V1	LEVEL	3	CREDIT	3

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Prepare to undertake inspection and servicing of steering systems and related components	1.1. Nature and scope of work requirements identified and confirmed 1.2. Safety requirements, including individual workplace regulatory requirements and personal protection needs throughout the work observed 1.3. Requirements and source procedures and information such as workshop manuals and specifications, and tooling identified 1.4. Appropriate methods to the circumstances selected and prepared in accordance with standard operating procedures selected 1.5. Warnings in relation to working with light vehicles observed
2. Conduct inspection and analyse results	2.1 Inspection in accordance with workplace procedures and manufacturer/component supplier specifications carried out 2.2 Inspection on disc brake friction pads, steering linkage joints, wheel nuts, tyre pressure, power steering fluid, ball joints looseness or damage, wheel alignment and steering functions carried out 2.3 Comparisons on the results with the manufacturer/component supplier specifications to indicate compliance or non-compliance carried out 2.4 Results and make recommendation(s) on the document results with evidence and supporting information analysed

	2.5 Report and forward to persons for action in accordance with workplace procedures prepared
3. Carry out servicing	3.1 Servicing carried out in accordance with workplace procedures and manufacturer/component supplier specifications 3.2 Power steering fluid filled, friction pads replaced, screw connections tightened, wheel alignments lubricated, wheel nuts tightened, tyre inflated to appropriate pressure 3.3 Adjustments including wheel bearing carried out in accordance with manufacturer/component supplier specifications
4. Prepare vehicle for customer and/or storage	4.1 Documentation of the service schedules maintained 4.2 Inspection made to ensure protective guards, safety features 4.3 Inspection made to ensure work is to workplace expectations 4.4 Vehicle/equipment cleaned for use or storage to workplace expectations

Range Statement

System components for inspection may include wheel bearings, ball joints, rose joints, struts, idler arms, steering boxes and columns, electronic controlled systems, two and four wheel steer and full hydraulic steering, including articulated vehicles and tracked type systems

Methods are to include visual, aural and functional assessments, including damage, corrosion, wear and electrical

Tools, equipment and materials used in this unit may include

Tooling and equipment may include hand tooling, meters, gauges, hydraulic testing equipment and devices

Materials may include lubricants and cleaning materials.

ASSESSMENT GUIDE

Forms of assessment

Assessment for the unit needs to be a holistic one and must include real or simulated workplace activities.

Assessment context

Application of competence is to be assessed in the workplace or simulated worksite

Assessment is to occur using standard and authorized work practices, safety requirements and environmental constraints

Critical aspects (for assessment)

It is essential that competence in this unit signifies ability to transfer competence to changing circumstances and to respond to unusual circumstances in the critical aspects of:

- Observing safety procedures and requirements
- Communicating effectively with others involved in or affected by the work
- Selecting methods and techniques appropriate to the circumstances
- Completing preparatory activity in a systematic manner
- Conducting service of a range of steering systems in accordance with the workplace and Manufacturer/component supplier requirements
- Accurately interpreting inspection results
- Servicing of steering systems completed within workplace timeframes
- Vehicle is presented to customer in compliance with workplace requirements

Assessment conditions

Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge

Assessment must be by direct observation of tasks, with questioning on underpinning knowledge and it must also reinforce the integration of key competencies

Special notes for assessment

It is preferable that assessment reflects a process rather than an event and occurs over a period of time to cover varying quality circumstances. Evidence of performance may be provided by customers, team leaders/members or other persons subject to agreed authentication arrangements.

Resources required for assessment

The following resources should be made available:

- Workplace location or simulated workplace

- Material relevant to the inspection and servicing of steering systems and associated components
- Equipment, hand and power tooling appropriate to the inspection and servicing of steering systems and associated components
- Activities covering mandatory task requirements
- Specifications and work instructions

UNDERPINNING KNOWLEDGE AND SKILLS

Underpinning Knowledge	**Underpinning Skills**
• Safety and environmental regulations/requirements, equipment, material and personal safety requirements • Dangers of working with wheeled and/or tracked vehicles • Operating principles of mechanical and hydraulic steering systems and their relationship to each other • Types and layout of service/repair manuals (hard copy and electronic) • Inspection procedures • Service procedures	• Identify components • Understand operation • Undertake servicing • Read Manuals

Unit 15

UNIT TITLE	Inspect and service manual transmissions				
DESCRIPTOR	This unit covers the competence required to inspect and service manual transmissions in an automotive, service and/or repair context. The unit includes identification and confirmation of work requirement, preparation for work, inspection, analysis and servicing of manual transmissions and completion of work finalisation processes, including clean-up and documentation.				
CODE	TRN01S2U09V1	LEVEL	3	CREDIT	3

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Prepare to undertake the inspection of manual transmissions	1.1. Nature and scope of work requirements identified and confirmed 1.2. Safety requirements, including individual workplace regulatory requirements and personal protection needs throughout the work observed 1.3. Requirements and source procedures and information such as workshop manuals and specifications, and tooling identified 1.4. Appropriate methods to the circumstances selected and prepared in accordance with standard operating procedures selected 1.5. Resources required for inspection of manual transmissions and support equipments identified and sourced 1.6. Warnings in relation to working with manual transmissions are observed
2. Conduct inspection and analyse results	2.1 Inspections implemented in accordance with workplace procedures and manufacturer/component supplier specifications 2.2 Inspection on transmission oil level, possible oil leaks, transmission oil pressure carried out 2.3 Inspection results compared with manufacturer/component supplier specifications to

	indicate compliance or non-compliance 2.4 Results with evidence and supporting information documented and recommendation(s) made 2.5 Report in accordance with workplace procedures processed
3. Prepare to service manual transmissions	3.1 Safety requirements, including individual workplace regulatory requirements and personal protection needs throughout the work observed 3.2 Information required identified and sourced 3.3 Support equipment and resources required for servicing manual transmissions identified and prepared
4. Carry out service	4.1 Servicing performed in accordance with workplace procedures and manufacturer/component supplier specifications 4.2 Oil filters and oil replaced 4.3 Adjustments during the service carried out in accordance with manufacturer/component supplier specifications
5. Prepare equipment for use or storage	5.1 Complete service schedule documented 5.2 Final inspection carried out to ensure protective guards and safety features in place 5.3 Final inspection carried out to ensure work attended was to workplace expectations 5.4 Equipment prepared for use or store to workplace expectations

Range Statement

This unit of competence applies to the following and should be contextualized to the qualification to which it is being applied:

- Light vehicle, heavy vehicle, outdoor power equipment, mobile plant

Methods include:

- Visual, aural and functional assessment (including: fluid leakage, selection)

Specific requirements may include:

- Manual transmissions, front and/or rear wheel drive configurations
- Belt drive transmissions.

Servicing to include fluids, filters, adjustments and operational testing, visual inspections and documents

Tools, equipment and materials used in this unit may include

Tooling and equipment may include hand tooling, meters, gauges and load testing devices

Materials may include lubricants, spare parts and cleaning materials

ASSESSMENT GUIDE

Forms of assessment

Assessment for the unit needs to be a holistic one and must include real or simulated workplace activities.

Assessment context

Application of competence is to be assessed in workplace or simulated worksite

Assessment is to occur using standard and authorized work practices, safety requirements and environmental constraints

Assessment is to comply with regulatory requirements, including Australian Standards

Critical aspects (for assessment)

It is essential that competence in this unit signifies ability to transfer competence to changing circumstances and to respond to unusual circumstances in the critical aspects of:

- Observing safety procedures and requirements
- Communicating effectively with others involved in or affected by the work
- Selecting methods and techniques, appropriate to the circumstances
- Completing preparatory activity in a systematic manner
- Identification of application, purpose and operating principles

- Conducting inspection, servicing and operational testing in accordance with workplace and Manufacturer/component supplier specifications
- Completing service of manual transmissions and associated components within workplace timeframes
- Equipment is presented to customer in compliance with workplace requirements

Assessment conditions

Assessment must be by direct observation of tasks, with questioning on underpinning knowledge and it must also reinforce the integration of key competencies

Assessment may be applied under project related conditions and require evidence of process

Assessment must confirm a reasonable inference that competence is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances

Special notes for assessment

It is preferable that assessment reflects a process rather than an event and occurs over a period of time to cover varying quality circumstances. Evidence of performance may be provided by customers, team leaders/members or other persons subject to agreed authentication arrangements

Resources required for assessment

- Workplace location or simulated workplace
- Material relevant to the inspection and servicing of manual transmissions
- Equipment, hand and power tooling appropriate to the inspection and servicing of manual transmissions

UNDERPINNING KNOWLEDGE AND SKILLS

Underpinning Knowledge	**Underpinning Skills**
• Safety regulations/requirements, equipment, Material and personal safety requirements • Dangers of working with manual transmissions • Types and layout of service/repair manuals (hard copy and electronic) • Inspection procedures • Service procedures	• Safe working skills • Identification of application, purpose and Operating principles • Inspection procedures • Service procedures

Unit 16

UNIT TITLE	Inspect and service automatic transmissions				
DESCRIPTOR	This unit covers the competence required to carry out the inspection and service of semi-automatic, automatic transmissions and associated components, including torque converters in an automotive retail, service and/or repair context				
CODE	TRN01S2U10V1	LEVEL	3	CREDIT	3

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Prepare to inspect semi automatic, automatic transmission	1.1. Nature and scope of work requirements identified and confirmed 1.2. Safety requirements, including individual workplace regulatory requirements and personal protection needs throughout the work observed 1.3. Requirements and source procedures and information such as workshop manuals and specifications, and tooling identified. 1.4. Appropriate methods to the circumstances selected and prepared in accordance with standard operating procedures selected 1.5. Resources required for the inspection of transmissions and support equipment identified and sourced 1.6. Warnings in relation to working with transmissions observed
2. Conduct inspection and analyse results	2.1 Inspection implemented in accordance with workplace procedures and manufacturer/component supplier specifications 2.2 Transmission oil level, possible oil leaks and transmission oil pressure inspected 2.3 Inspection results compared with manufacturer/component supplier specifications to indicate compliance or non-compliance 2.4 Results with evidence and supporting information documented and recommendation(s) made

	2.5 Report processed in accordance with workplace procedures
3. Prepare to service transmission	3.1 Safety requirements, including individual workplace regulatory requirements and personal protection needs throughout the work observed 3.2 Procedures and information required identified and sourced 3.3 Resources and support equipments required for servicing transmissions identified
4. Carry out service to transmission	4.1 Service inspected in accordance with workplace procedures and manufacturer/component supplier specifications 4.2 Oil filters and oil replaced 4.3 Adjustments carried out in accordance with manufacturer/component supplier specifications
5. Prepare equipment for use or storage	5.1 Complete service schedules documented 5.2 Final inspection carried out to ensure protective guards, safety features and cowlings in place 5.3 Final inspection carried out to ensure work to workplace expectations 5.4 Equipment cleaned to be stored to workplace expectations

Range Statement

Work involved includes semi automatic, automatic transmissions in light vehicles and outdoor power equipments

Transmissions may be automatic, semi-automatic and power shift transmissions, front and/or rear wheel drive configurations and include power take-off assemblies, pre-selective transmissions and electronically controlled transmissions

Methods are to include:

- Operational testing
- Visual, aural and functional assessment (including: fluid leakage, selection)

Tools, equipment and materials used in this unit may include

Tooling and equipment may include hand tooling, meters, gauges and load testing devices

Materials may include lubricants, minor spare parts and cleaning material

ASSESSMENT GUIDE

Forms of assessment

Assessment for the unit needs to be a holistic one and must include real or simulated workplace activities.

Assessment context

Application of competence is to be assessed in the workplace or simulated worksite

Assessment is to occur using standard and authorised work practices, safety requirements and environmental constraints

Critical aspects (for assessment)

It is essential that competence in this unit signifies ability to transfer competence to changing circumstances and to respond to unusual circumstances in the critical aspects of:

- Observing safety procedures and requirements
- Communicating effectively with others involved in or affected by the work
- Selecting methods and techniques, appropriate to the circumstances
- Identify application, purpose and operating principles
- Conducting the inspection and servicing of a range of transmission types in accordance with Workplace and manufacturer/component supplier requirements
- Completing service of transmissions and associated components within workplace timeframes
- Equipment is presented to customer in compliance with workplace requirements

Assessment conditions

Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge

Assessment must be by direct observation of tasks, with questioning on underpinning knowledge and it must also reinforce the integration of key competencies

Assessment may be applied under project related conditions and require evidence of process

Special notes for assessment

It is preferable that assessment reflects a process rather than an event and occurs over a period of time to cover varying quality circumstances. Evidence of performance may be provided by customers, team leaders/members or other persons subject to agreed authentication arrangements.

Resources required for assessment

The following resources should be made available:

- Workplace location or simulated workplace
- Material relevant to the inspection and servicing of automatic transmissions
- Equipment, hand and power tooling appropriate to the inspection and servicing of automatic transmissions
- Activities covering mandatory task requirements
- Specifications and work instructions

UNDERPINNING KNOWLEDGE AND SKILLS

Underpinning Knowledge	**Underpinning Skills**
• A working knowledge of: ➢ Workplace regulations/requirements, equipment, material and personal safety requirements ➢ dangers of working with transmissions ➢ fluid dynamics ➢ drive flow paths ➢ gear selection mechanisms ➢ three laws of compound planetary gear sets	• Develop necessary skills in ➢ Safe working practices ➢ Identifying and explaining operation and purpose of the operating principles. ➢ Identifying of components to include physical fluids, gases and heat generated

➢ five laws of simple planetary gear sets ➢ superior driving member rule ➢ Identification of application, purpose and operating principles ➢ Identification of component parts to include: ➢ physical fluids ➢ gases ➢ heat generated	

Unit 17

UNIT TITLE	Inspect and service braking system components				
DESCRIPTOR	This unit covers the competence required to inspect and service of braking systems and/or associated components, including pneumatic over hydraulic, air, hand and parking brake systems in an automotive retail, service and/or repair context.				
CODE	TRN01S2U11V1	LEVEL	3	CREDIT	3

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Prepare to undertake braking system inspection	1.1. Nature and scope of work requirements identified and confirmed 1.2. Safety requirements, including individual workplace regulatory requirements and personal protection needs throughout the work observed 1.3. Requirements and source procedures and information such as workshop manuals and specifications, and tooling identified 1.4. Appropriate methods to the circumstances selected and prepared in accordance with standard operating procedures 1.5. Resources required for inspection of braking systems and support equipments identified and sourced 1.6. Warnings in relation to working with braking systems observed
2. Conduct braking system wear analysis	2.1 Braking system analysis implemented in accordance with road safety legislation, workplace procedures and manufacturer/component supplier specifications 2.2 Brake fluid, brake system for fluid leakage, rear brake lining and drum wear, front disc brake pads and disc wear, brake pedal travel and play, pipes and hoses for loose connections or damage, parking brake cables, parking brake function, parking brake lever travel,

	lining for wear, drum for wear or damage inspected 2.3 Brake wear measurement results compared with manufacturer/component supplier specifications to indicate compliance or non-compliance 2.4 Results appropriately documented and recommendations provided based on evidence and supporting information 2.5 Report processed in accordance with workplace procedures
3. Prepare to service braking system and/or associated components	3.1 Safety requirements, including individual workplace regulatory requirements and personal protection needs throughout the work observed 3.2 Procedures and information required identified and sourced 3.3 Resources required for servicing braking systems and support equipments identified
4. Carry out servicing of braking systems and/or associated components	4.1 Servicing carried out in accordance with workplace procedures and manufacturer/component supplier specifications 4.2 Adjustments carried out in accordance with manufacturer/component supplier specifications
5. Prepare equipment for use or storage	5.1 Complete servicing schedules documented 5.2 Final inspection carried out to ensure protective features in place 5.3 Final inspection carried out to ensure work is to workplace expectations 5.4 Equipment cleaned for use or storage to workplace expectations

Range Statement

This unit of competence refers to braking systems associated with automotive service and repair and should be contextualised to the level of qualification to which it is being applied:

- light vehicle, or outdoor power equipment

Types of braking systems may include:

- Hydraulic
- Mechanical
- Pneumatic

System components may include:

- Disc pads
- Master cylinders
- Brake shoes
- Brake calipers
- Brake hoses
- Brake actuators
- Mechanical devices
- Valves

Methods are to include:

- Visual, aural and functional assessments (including damage, corrosion, fluid leaks, wear)
- Measurements of pedal travel, free-play, disc run out, disc thickness, drum wear and pad/lining thickness

Tools, equipment and materials used in this unit may include

Tooling and equipment may include hand tooling, gauges (including dial, verniers and micrometers), bleeding and brake testing devices, dust extraction equipment and grease guns

Materials may include lubricants, fluids, minor spare parts and cleaning material

ASSESSMENT GUIDE

Forms of assessment

Assessment for the unit needs to be a holistic one and must include real or simulated workplace activities.

Assessment context

Critical aspects (for assessment)

Application of competence is to be assessed in the workplace or simulated worksite

Assessment is to occur using standard and authorised work practices, safety requirements and environmental constraints

Assessment conditions

Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge

Assessment must be by direct observation of tasks, with questioning on underpinning knowledge and it must also reinforce the integration of key competencies

Assessment may be applied under project related conditions and require evidence of process

Special notes for assessment

It is preferable that assessment reflects a process rather than an event and occurs over a period of time to cover varying quality circumstances. Evidence of performance may be provided by customers, team leaders/members or other persons subject to agreed authentication arrangements

Resources required for assessment

The following resources should be made available:

- Workplace location or simulated workplace
- Material relevant to the inspection and servicing of braking systems
- Equipment, hand and power tooling appropriate to the inspection and servicing of braking systems
- Activities covering mandatory task requirements
- Specifications and work instructions

UNDERPINNING KNOWLEDGE AND SKILLS

Underpinning Knowledge	**Underpinning Skills**
• A working knowledge of: ➢ Workplace safety and environmental regulations/requirements, equipment, material and personal safety requirements ➢ dangers of working with braking systems ➢ operating principles of braking systems, components and their relationship to each other ➢ types and layout of service/repair manuals (hard copy and electronic) ➢ analysis procedures ➢ servicing procedures ➢ enterprise quality procedures ➢ work organisation and planning processes	• Develop skills in ➢ Undertaking inspection of the braking system ➢ Analysis of braking system components. Carrying out servicing of braking system components ➢ Preparing equipments for storage

Unit 18

UNIT TITLE	Inspect and service auto electric system components				
DESCRIPTOR	This unit involves inspection and servicing of the automotive batteries, automotive charging and starting system and jump starting vehicles.				
CODE	TRN01S2U12V1	LEVEL	3	CREDIT	3

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Test, Service and Charge Automotive Battery	1.1. Appropriate safety precautions observed 1.2. Appropriate tools and test equipments selected 1.3. Tests and analyze results performed 1.4. Battery safely removed 1.5. Electrolyte levels checked and if necessary topped up 1.6. Battery charged using the appropriate battery charger 1.7. Battery safely installed
2. Jump-start vehicle	2.1 Vehicle jump started without causing damage to any workplace property or vehicle 2.2 Jumper leads selected and used ensuring spike protection when necessary 2.3 Connected/disconnect leads in according to sequence and polarity
3. Inspect starting system/ components and service them	3.1 Work completed without causing damage to any workplace property or vehicle 3.2 Information on appropriate manufacturer specifications accessed 3.3 Faults inspected and identified using appropriate tools and techniques 3.4 Visual inspection of the starting circuit, functional analysis of the system components and their operation carried out 3.5 Documented inspection results reported
4. Test system/ components and identify faults	4.1 Work completed without causing damage to any workplace property or vehicle 4.2 Information appropriate manufacturer specifications

	accessed 4.3 Tests to determine faults using appropriate tools and techniques carried out 4.4 Faults identified and preferred repair action determined

Range Statement

Visual inspections include automotive battery, starting system components, charging system components.

Jump starting of light vehicles that are equal or less than 2 tons.

Tools, equipment and materials used in this unit may include

All relevant hand tools, measuring instruments, multimeters and hydrometers

Battery electrolyte lugs and cables

ASSESSMENT GUIDE

Forms of assessment

Assessment for the unit needs to be a holistic one and must include real or simulated workplace activities.

Assessment context

Competency must be assessed on the job or simulated environment.

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

Critical aspects (for assessment)

Assessment requires evidence that the candidate:

- Serviced and charged batteries
- Tested/jump started the battery/vehicles
- Identified faults in the charging and the starting system components

Assessment conditions

Competency must be assessed through:

- Direct observation
- Questions/Interview

Special notes for assessment

Assessment must be focused not only on a single event but rather concentrate on the holistic work

Resources required for assessment

The following resources must be provided:

- Workplace: Real or simulated work area
- Appropriate Tools & equipment
- Materials relevant to the activity

UNDERPINNING KNOWLEDGE AND SKILLS

Underpinning Knowledge	**Underpinning Skills**
• Electrical principles • Charging system components and functions • Repair procedures • Electrical measuring and testing procedures • Vehicle safety requirements	• Handling batteries and tools • Operating testing equipment • Testing Starting and charging system components • Jump start safely

Unit 19

UNIT TITLE	Service final drive assembly components				
DESCRIPTOR	This unit covers the competence required to carry out testing and servicing of final drive assemblies and associated components. The unit includes identification and confirmation of work requirement, preparation for work, testing and analysis of results, servicing of final drive assemblies and completion of work finalization processes, including clean-up.				
CODE	TRN01S2U13V1	LEVEL	3	CREDIT	3

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Prepare to undertake tests of final drive assemblies and associated components	1.1. Nature and scope of work requirements are identified and confirmed 1.2. Operating principles of gear assembles explained and understood 1.3. Workplace requirements, including individual workplace regulatory requirements and personal protection needs observed throughout the work 1.4. Procedures and information such as workshop manuals and specifications, and tooling required sourced 1.5. Methods appropriate to the circumstances selected and prepared in accordance with standard operating procedures 1.6. Resources required for the testing of final drive assemblies and associated components sourced and support equipment is identified and prepared 1.7. Warnings in relation to working with final drive assemblies and associated components observed
2. Test final drive assemblies and analyse results	2.1 System tests implemented in accordance with workplace procedures and manufacturer/component supplier specifications 2.2 Loose connection, universal joint slip joint, bearings and related parts for looseness, center bearing inspected

	2.3 Inspection results compared with manufacturer/component supplier specifications to indicate compliance or non-compliance 2.4 Results documented with evidence and supporting information and recommendation(s) made 2.5 Report processed in accordance with workplace procedures
3. Prepare to service final drive assemblies and associated components	3.1 Safety requirements, including individual workplace regulatory requirements and personal protection needs observed throughout the work 3.2 Procedures and information required identified and sourced 3.3 Resources required for servicing final drive assemblies identified and support equipment identified and prepared
4. Carry out service	4.1 Service implemented in accordance with workplace procedures and manufacturer/component supplier specifications 4.2 Adjustments made during the service in accordance with manufacturer/component supplier specifications
5. Prepare vehicle/equipment for use or storage	5.1 Service schedule documentation completed 5.2 Final inspection made to ensure protective guards, safety features and cowlings are in place 5.3 Final inspection made to ensure work to workplace expectations 5.4 Vehicle/equipment cleaned for use or storage to workplace expectations 5.5 Job card processed in accordance with workplace procedures

Range Statement

Servicing to include fluids, filters, adjustments and operational testing, visual inspections and documents

Tools, equipment and materials used in this unit may include

Tooling and equipment may include hand tooling, meters, gauges and load testing devices

Materials may include lubricants, minor parts and cleaning material

ASSESSMENT GUIDE

Forms of assessment

Assessment for the unit needs to be a holistic one and must include real or simulated workplace activities.

Assessment context

Application of competence is to be assessed in the workplace or simulated worksite

Assessment is to occur using standard and authorised work practices, safety requirements and environmental constraints

Critical aspects (for assessment)

It is essential that competence in this unit signifies ability to transfer competence to changing circumstances and to respond to unusual circumstances in the critical aspects of:

- Observing safety procedures and requirements
- Communicating effectively with others involved in or affected by the work
- Selecting methods and techniques appropriate to the circumstances
- Completing preparatory activity in a systematic manner
- Identification of application, purpose and operating principles
- Conducting inspection, servicing and operational testing in accordance with workplace and Manufacturer/component supplier specifications
- Accurately interpreting inspection results
- Completing service of drivelines and associated components within workplace timeframes
- Vehicle is presented to customer in compliance with workplace requirements

Assessment conditions

Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge

Assessment must be by direct observation of tasks, with questioning on underpinning knowledge and it must also reinforce the integration of key competencies

Assessment may be applied under project related conditions and require evidence of process

Special notes for assessment

It is preferable that assessment reflects a process rather than an event and occurs over a period of time to cover varying quality circumstances. Evidence of performance may be provided by customers, team leaders/members or other persons subject to agreed authentication arrangements.

Resources required for assessment

- Workplace location or simulated workplace
- Material relevant to the inspection and servicing of final drive assemblies
- Equipment, hand and power tooling appropriate to the inspection and servicing of final drive assemblies
- Activities covering mandatory task requirements

UNDERPINNING KNOWLEDGE AND SKILLS

Underpinning Knowledge	**Underpinning Skills**
• A working knowledge of ➢ Safety regulations/requirements, equipment, material and personal safety requirements. ➢ Operating principles of final drive assemblies ➢ Identification of application, purpose and operating principles ➢ Inspection procedures ➢ Final drive assembly service procedures	• Develop competency in ➢ Working safely ➢ Explain working principles of its components ➢ Identification of parts ➢ Inspection of parts ➢ Servicing final drive parts

Unit 20

UNIT TITLE	Inspect and Service Auto Air-conditioning system components				
DESCRIPTOR	This unit covers the competence required to service automotive air conditioning systems. The unit includes identification and confirmation of work requirement, preparation for work, servicing of air conditioning systems and completion of work finalisation processes, including clean-up and documentation.				
CODE	TRN01S2U14V1	LEVEL	3	CREDIT	3

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Prepare to service air conditioning system	1.1. Nature and scope of work requirements identified and confirmed 1.2. Safety requirements, including individual workplace regulatory requirements and personal protection needs observed throughout the work 1.3. Procedures and information such as workshop manuals and specifications, and tooling required sourced 1.4. Method options analysed and those most appropriate to the circumstances selected and prepared 1.5. Technical and/or calibration requirements for servicing sourced and support equipment identified and prepared 1.6. Dangers associated when working with refrigerants observed
2. Service air conditioning system	2.1 Correct information is accessed and interpreted from manufacturer/component supplier specifications 2.2 System performance tested and air conditioning service procedures determined 2.3 Service of the system and components carried out in accordance with manufacturer/component supplier specifications 2.4 Air conditioning system serviced without causing damage to any component or system

	2.5 Servicing carried out according to industry regulations/ guidelines, legislation and enterprise procedures/policies
3. Prepare vehicle/ equipment for customer use	3.1 System tested and results documented in accordance with enterprise policies and procedures 3.2 Service schedule documentation completed 3.3 Final inspection made to ensure protective guards and safety features are in place 3.4 Final inspection made to ensure work is to workplace expectations 3.5 Job card processed in accordance with workplace procedures

Range Statement

Work involved includes automotive air conditioners fitted to light vehicles, heavy vehicles, mobile plant and equipment and marine craft

Methods include:

- Adjustment, refrigerant leak detecting, performance testing

Other variables may include:

- Climate control systems
- Servicing to include fluids, filters, adjustments and operational testing, visual inspections and documents

Tools, equipment and materials used in this unit may include

Tooling and equipment may include hand tooling, refrigerant leak detecting equipment, thermometers, evacuation equipment, refrigerant recovery and/or recycling equipment and refrigerant re-gassing equipment.

Materials may include refrigerant and refrigerant oils, lubricants, minor parts and cleaning materials

ASSESSMENT GUIDE

Forms of assessment

Assessment for the unit needs to be a holistic one and must include real or simulated workplace activities.

Assessment context

Application of competence is to be assessed in the workplace or simulated worksite

Assessment is to occur using standard and authorised work practices, safety requirements and environmental constraints

Critical aspects (for assessment)

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

- Observing safety procedures and requirements, in particular, the dangers associated with handling refrigerants
- Communicating effectively with others involved in or affected by the work
- Selecting methods and techniques appropriate to the circumstances
- Completing preparatory activity in a systematic manner
- Identification of application, purpose and operating principles
- Conducting inspection, servicing and operational testing in accordance with workplace and manufacturer/ component supplier specifications
- Performance testing air conditioning systems
- Accurately interpreting performance test results
- Conducting service operations according to industry codes of practice, legislation and manufacturer/ component supplier requirements
- Completing servicing of air conditioning systems and associated components within workplace timeframes
- Vehicle/equipment is presented to customer in compliance with workplace requirements

Assessment conditions

Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge

Assessment must be by direct observation of tasks, with questioning on underpinning knowledge and it must also reinforce the integration of key competencies

Special notes for assessment

It is preferable that assessment reflects a process rather than an event and occurs over a period of time to cover varying quality circumstances. Evidence of performance may be provided by customers, team leaders/members or other persons subject to agreed authentication arrangements

Resources required for assessment

- Workplace location or simulated workplace
- Material relevant to servicing air conditioning systems
- Equipment, hand and power tooling appropriate to servicing air conditioning systems
- Activities covering mandatory task requirements

UNDERPINNING KNOWLEDGE AND SKILLS

Underpinning Knowledge	**Underpinning Skills**
• A working knowledge of: ➢ safety regulations/requirements, license requirements, equipment, material and personal safety requirements ➢ dangers associated when working with refrigerants ➢ identification of application, purpose and operating principles ➢ refrigerant types and application ➢ system electrical circuits ➢ refrigerant/oils and capacities ➢ types and layout of service/repair manuals (hard copy and electronic) ➢ servicing procedures ➢ work practices in relation to preventing damage to sensitive electronic components ➢ system performance testing procedures	• Skilled and competent in ➢ working safely ➢ identification of application, purpose and operating principles ➢ Identification of referents. ➢ Reading layout and manuals ➢ Perform testing ➢ Servicing the system

Unit 21

UNIT TITLE	Inspect and service hydraulic systems				
DESCRIPTOR	This unit covers the competence required to carry out the inspection and servicing of hydraulic systems. The unit includes identification and confirmation of work requirement, preparation for work, testing of systems, analysis of results and servicing of hydraulic systems and completion of work finalization processes, including clean-up and documentation.				
CODE	TRN01S2U15V1	LEVEL	3	CREDIT	3

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Prepare to undertake testing and servicing of hydraulic systems	1.1. Nature and scope of work requirements identified and confirmed 1.2. Safety requirements, including individual workplace regulatory requirements and personal protection needs throughout the work observed 1.3. Requirements and source procedures and information such as workshop manuals and specifications, and tooling identified 1.4. Appropriate methods to the circumstances selected and prepared in accordance with standard operating procedures 1.5. Technical requirements for testing and servicing of hydraulic systems and support equipments identified and sourced 1.6. Warnings in relation to working with hydraulics observed
2. Test hydraulic systems and analyse results	2.1 Methods for the system tests applied and implemented in accordance with workplace procedures and manufacturer/component supplier specifications 2.2 Results compared with manufacturer/component supplier specifications to indicate compliance or non-compliance

	2.3 Results compared with evidence and supporting information and recommendation(s) made 2.4 Report processed in accordance with workplace procedures
3. Carry out servicing	3.1 Methods for the system tests applied and implemented in accordance with workplace procedures and manufacturer/component supplier specifications 3.2 Adjustments carried out in accordance with manufacturer/component supplier specifications
4. Prepare vehicle/system for use or storage	4.1 Report servicing schedule and document them 4.2 Undertake final inspection to ensure protective guards, safety features and cowlings are in place 4.3 Undertake final inspection to ensure work is to workplace expectations 4.4 Vehicle/system prepared for use or store to workplace expectations

Range Statement

Work involves vehicles fitted with hydraulic systems that are of an earthmoving or lifting and supporting nature. This unit is not intended for drive systems, power steering or hydraulic braking systems.

Servicing to include fluids, filters, adjustments and operational testing, visual inspections and documents

Work requires individuals to demonstrate discretion, judgment and problem-solving skills in managing own work activities and contributing to a productive team environment

Tools, Equipment and machinery used in this unit may include

Tooling and equipment may include hand tooling, meters, gauges and fluid dispensing, disposal and load testing devices

Materials may include fluids, spare parts and cleaning materials

ASSESSMENT GUIDE

Forms of assessment

Assessment for the unit needs to be a holistic one and must include real or simulated workplace activities.

Assessment context

Application of competence is to be assessed in the workplace or simulated worksite

Assessment is to occur using standard and authorised work practices, safety requirements and environmental constraints

Assessment is to comply with regulatory requirements, including Australian Standards

Critical aspects (for assessment)

It is essential that competence in this unit signifies ability to transfer competence to changing circumstances and to respond to unusual circumstances in the critical aspects of:

- Observing safety procedures and requirements
- Communicating effectively with others involved in or affected by the work
- Selecting methods and techniques appropriate to the circumstances
- Completing preparatory activity in a systematic manner
- Accurately interpreting inspection results
- Identification of application, purpose and operating principles
- Conducting inspection, servicing and operational testing in accordance with workplace and Manufacturer/component supplier specifications
- Completing servicing of hydraulic systems and associated components within workplace timeframes
- Vehicle/hydraulic system is presented to customer in compliance with workplace requirements

Assessment conditions

Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge

Assessment must be by direct observation of tasks, with questioning on underpinning knowledge and it must also reinforce the integration of key competencies

Assessment may be applied under project related conditions and require evidence of process

Special notes for assessment

It is preferable that assessment reflects a process rather than an event and occurs over a period of time to cover varying quality circumstances. Evidence of performance may be provided by customers, team leaders/members or other persons subject to agreed authentication arrangements

Resources required for assessment

The following resources should be made available:

- Workplace location or simulated workplace
- Material relevant to the inspection and servicing of hydraulic systems
- Equipment, hand and power tooling appropriate to the inspection and servicing of hydraulic systems
- Activities covering mandatory task requirements
- Specifications and work instructions

UNDERPINNING KNOWLEDGE AND SKILLS

Underpinning Knowledge	**Underpinning Skills**
• A working knowledge of: ➢ Safety and environmental regulations/requirements, equipment, material and personal safety requirements ➢ Dangers of working with pressurized fluids ➢ Identification of application, purpose and operating principles ➢ Types and layout of service/repair manuals (hard copy and electronic) ➢ Inspection procedures ➢ Servicing procedures ➢ Enterprise quality procedures ➢ Work organisation and planning processes	• Gain competent skills in the following: ➢ Working safely ➢ Identification of all the relevant equipments and tools ➢ Demonstrate competent skills in using and explaining functions of all the relevant components ➢ Undertake inspection of all the relevant equipments ➢ Servicing of all the relevant equipments