



Defence Awarding  
Organisation

## **Qualification Handbook**

DAO Level 4 Diploma in Motor Vehicle  
Repair, Maintenance and Workshop  
Management

**QN: 603/0267/7**

# The Qualification

## Overall Objective for the Qualifications

This handbook relates to the following qualification:

- Level 4 Diploma in Motor Vehicle Repair, Maintenance and Workshop Management

This Level 4 Diploma provides the standards that must be achieved by individuals that are overseeing and supervising a team.

## Pre-entry Requirements

Learners who are taking this qualification will need to be working in the role of a vehicle mechanic.

## Unit Content and Rules of Combination

This qualification is made up of a total of 6 mandatory units. To be awarded this qualification the candidate must achieve a total of 58 credits as shown in the table below.

Unit Reference Number	Unit Title	Level	Credit Value	GLH	TQT
A/615/1092	Motor Vehicle Environment General Practices	4	3	30	30
L/615/1095	Managing and Supervising in a Motor Vehicle Environment	4	3	26	26
Y/615/1102	Motor Vehicle Environment Technical Knowledge	4	16	153	153
D/615/1103	Motor Vehicle Environment Technical Competence	4	18	185	185
H/615/1104	Vehicle Inspections	4	5	45	45
K/615/1105	Identify, Diagnose and Rectify faults in a Motor Vehicle Environment	4	13	125	125

**Age Restriction**

This qualification is available to learners aged 18 years and over.

**Opportunities for Progression**

This qualification creates a number of opportunities for progression within defence and civilian industry.

# Qualification Units

URN:	A/615/1092
Title:	Motor Vehicle Environment General Practices
Level:	4
Credit value:	3
GLH	30
TQT:	30
Learning outcomes	Assessment criteria
<i>The learner will:</i>	<i>The learner can:</i>
1 Outline how to comply with organisational and manufactures housekeeping and maintenance policies	1.1 Identify the regulation and organisational information sources applicable to workshop cleaning and maintenance activities 1.2 Carry out routine checks on tools and equipment 1.3 Carry out tool and equipment maintenance and cleaning 1.4 Explain organisational policies for replacing unserviceable tools and equipment 1.5 Carry out visual inspections on electrical equipment 1.6 Explain the importance of keeping work areas clean 1.7 Explain how to deal with spillages 1.8 Explain how to dispose of waste, used materials and debris
2 Outline the responsibilities for maintaining health and safety and reducing risks in a motor vehicle environment	2.1 Explain the regulatory and organisational policies for Health and Safety 2.2 Describe how to identify hazards and evaluate risks in your workplace 2.3 Explain the importance of wearing PPE 2.4 Describe how to monitor your own personal safety 2.5 Describe how to ensure the safety of others around you is continually monitored 2.6 Describe how to reduce the risks to health and safety in your workplace 2.7 Explain how to deal with and report near misses and accidents
3 Explain how to use hand tools and equipment in a motor vehicle environment	3.1 Describe how to interpret the given information relating to the work and resources to confirm its relevance 3.2 Carry out pre-start preparation inspections on power tools and equipment in accordance with manufacturer's and

	<p>organisational procedures</p> <p>3.3 Carry out operations using power tools and equipment in accordance with organisational and manufacturer's safe working practices to achieve the work outcomes</p> <p>3.4 Explain how to identify problems associated with power tools and equipment which need to be referred to authorised personnel</p> <p>3.5 Demonstrate work skills to include:</p> <ul style="list-style-type: none"> <li>• measure</li> <li>• mark out</li> <li>• file</li> <li>• fit</li> <li>• tap</li> <li>• thread</li> <li>• cut</li> <li>• drill</li> <li>• finish</li> <li>• position and secure</li> </ul> <p>3.6 Demonstrate how to use and maintain:</p> <ul style="list-style-type: none"> <li>• hand tools</li> <li>• ancillary equipment</li> <li>• safety aids</li> </ul> <p>3.7 Explain how to dispose of waste in accordance with legislation, organisational and manufacturer's instructions to maintain a clean work space</p> <p>3.8 Carry out checks in accordance with manufacturer's/operator's guidance, legislation, official guidance and organisational requirements</p> <p>3.9 Demonstrate work skills to select correct materials and fabrication for projects</p>
<p>4 Understand business management in a Motor vehicle environment</p>	<p>4.1 Describe how to design processes that deliver outcomes based on organisational goals</p> <p>4.2 Explain how to ensure processes and resources are sustainable and effective in their use</p> <p>4.3 Explain how to Identify and provide the resources you need in a Motor vehicle environment</p> <p>4.4 Explain how to take account of influences that may affect and shape how processes work</p> <p>4.5 Explain the need of workflow processes so that they emanate across the organisation to form a complete system</p> <p>4.6 Explain why it is important to provide information and support to staff and other stakeholders</p> <p>4.7 Explain the process responsibilities</p> <p>4.8 Explain how to develop processes that provides enough information for people to decide how to manage the process</p> <p>4.9 Explain how to establish and use effective methods to review</p>

	and improve processes
Additional information about the unit	
Unit purpose and aim(s)	The aim of this unit is to develop fundamental management skills which learners should possess. In doing so, learners will be in a stronger and more confident position to manage a team to achieve team tasks and objectives.
Unit expiry date	31 August 2020
Assessment requirements specified by a sector or regulatory body (if appropriate)	
Name of the organisation submitting the unit	Defence Awarding Organisation
Availability for use	Restricted

URN:	L/615/1095
Title:	Managing and Supervising in a Motor Vehicle Environment
Level:	4
Credit value:	3
GLH	26
TQT:	26
Learning outcomes	Assessment criteria
<i>The learner will:</i>	<i>The learner can:</i>
1 Apply effective supervisory skills	<p>1.1.Explain how to identify the work required in your area of responsibility</p> <p>1.2.Produce a plan for the work that will be undertaken</p> <p>1.3.Identify resources and allocate work to individuals / teams</p> <p>1.4.Determine the individuals / teams understanding of allocated work</p> <p>1.5.Distinguish methods to identify differences in individual working practices</p> <p>1.6.Outline to individuals methods of:</p> <ul style="list-style-type: none"> <li>• Asking questions</li> <li>• Making suggestions</li> <li>• Seeking clarification in relation to their work</li> </ul> <p>1.7.Describe ways of monitoring individuals / teams progress against the expected standard</p> <p>1.8.Explain how to support individuals / teams in identifying and dealing with problems and unforeseen events</p> <p>1.9.Describe how to motivate individuals / teams to complete the work they have been allocated</p> <p>1.10. Describe how you would monitor your area for conflict</p> <p>1.11. Describe how to identify unacceptable or poor performance</p> <p>1.12. Explain how to recognise successful completion of significant pieces of work or work activities by individuals / teams.</p> <p>1.13 Explain how to use information collected on individuals / teams performance at performance appraisal review</p> <p>1.14 Describe how to review and update plans of work for your area</p>

<p>2 Outline the supervisory responsibilities for maintaining health and safety and reducing risks in a motor vehicle environment</p>	<p>2.1. Explain the regulatory and organisational policies for Health and Safety  2.2. Describe how to identify hazards and evaluate risks in your workplace  2.3. Explain the importance of wearing PPE  2.4. Describe how to monitor your own personal safety  2.5. Describe how to ensure the safety of others around you is continually monitored  2.6. Describe how to reduce the risks to health and safety in your workplace  2.7 Explain how to deal with and report near misses and accidents</p>
<p>3 Maintain working relationships in a motor vehicle environment</p>	<p>3.1. Explain how to contribute actively to team working  3.2. Carry out prompt and willing requests for assistance from colleagues  3.3. Explain how to respond to requests that fall outside your remit  3.4 Describe how to give colleagues sufficient, accurate information in support of their work needs</p>
<p>4 Developing staff in a motor vehicle environment</p>	<p>4.1. Describe how to give team members opportunities to approach you with issues regarding their performance  4.2. Outline how to identify issues with performance and describe how to bring this to the attention of the team  4.3. Describe how to discuss problems with team members  4.4. Explain how to collect and analyse information to accurately identify problems and causes  4.5. Describe the course of actions that can be taken with the individual  4.6. Identify and name the support services or specialists that are available to help  4.7. Outline why confidential records of discussion are kept on performance related issues  4.8 Outline that your actions are in line with the organisational policy for managing people</p>
<p>Additional information about the unit</p>	
<p>Unit purpose and aim(s)</p>	<p>The aim of this unit is to develop fundamental management skills which learners should possess. In doing so, learners will be in a stronger and more confident position to manage a team to achieve team tasks and objectives</p>
<p>Unit expiry date</p>	<p>31 August 2020</p>
<p>Assessment requirements specified by a sector or regulatory body (if appropriate)</p>	



Name of the organisation submitting the unit	Defence Awarding Organisation
Availability for use	Restricted

URN:	Y/615/1102
Title:	Motor Vehicle Environment Technical Knowledge
Level:	4
Credit value:	16
GLH	153
TQT:	153
Learning outcomes	Assessment criteria
<i>The learner will:</i>	<i>The learner can:</i>
1 Understand how motor vehicle components Work	<p>1.1 Describe the health, safety and legal requirements relating to working within the automotive sector</p> <p>1.2 Describe the four stroke cycle for Si and Ci</p> <p>1.3 Describe the two stroke cycle for Si and Ci</p> <p>1.4 Describe the types of fuel used for internal combustion engines</p> <p>1.5 Describe the alternative power plant systems for vehicles</p> <p>1.6 Describe the construction, design and operation of four stroke and two stroke engines</p> <p>1.7 Describe the construction, design and operation of hydrogen fuel cells</p> <p>1.8 Describe the construction, design and operation of electrically powered vehicles.</p> <p>1.9 Describe the cooling systems for internal combustion engines - air, oil and water</p> <p>1.10 Describe the ignition systems for Si engines</p> <p>1.11 Describe the power generating systems used within vehicles</p> <p>1.12 Describe the construction, design and operation of braking systems (including regenerative braking)</p> <p>1.13 Describe the construction, design and operation of suspension systems (mechanical, electrical and fluid. Linear magnetic system variable viscosity fluid to be included)</p> <p>1.14 Describe the construction, design and operation of steering systems mechanical electrical and hydraulic</p> <p>1.15 Describe the construction, design and operation of vehicle starting systems</p> <p>1.16 Describe the construction, design and operation of vehicle electrical and electronic systems including data transfer / bus system/s</p> <p>1.17 Describe the construction, design and operation of sensors and actuators</p>

	<p>1.18 Describe the construction, design and operation of vehicle transmission driveline units and components</p> <p>1.19 Describe the Industry/sector requirements for the development or maintenance of knowledge, understanding and skills, Industry/sector specific legislation, regulations, guidelines and codes of practice relating to carrying out work in the motor vehicle environment</p>
<p>2 Understand the need to liaise with motor vehicle and product manufacturers on technical matters</p>	<p>2.1 Explain the need to maintain awareness of current technical developments and information for the vehicles you handle</p> <p>2.2 Explain why you would seek assistance from manufacturers when the prescribed diagnostic processes have failed</p> <p>2.3 Explain why you would provide information at the level of detail necessary and in a form and manner which the recipient will understand and accept</p> <p>2.4 Explain why you would report technical problems and quality issues promptly in line with manufacturer's requirements</p> <p>2.5 Explain why you would collect sufficient, detailed information on the vehicle, the problem and action taken prior to contacting the manufacturer</p> <p>2.6 Explain why requests for information from the manufacturers are made clearly and promptly</p> <p>2.7 Explain why you would respond to requests for information from manufacturers within the specified timescale</p> <p>2.8 Explain why you would pass all information received from manufacturers on to the relevant person(s) promptly</p> <p>2.9 Explain why you would report any anticipated delays in obtaining or providing information to the relevant person(s) promptly</p> <p>2.10 Explain why your reports and technical information should be complete, accurate and in the format required</p> <p>2.11 Explain why you would suggest possible methods for improving the reporting process to your manager</p> <p>2.12 Explain why you would carry out your reporting in an effective and efficient manner that is not detrimental to the smooth running of the workshop</p>
<p>3 Understand how to provide diagnostic equipment and technical information system support in motor vehicle environments</p>	<p>3.1 Explain the processes required when receiving new diagnostic equipment and technical information systems</p> <p>3.2 Explain why you would use safe working practices when dealing with diagnostic equipment and technical information systems</p> <p>3.3 Explain the processes required when errors are identified</p> <p>3.4 Explain the processes when updates to software are required</p> <p>3.5 Explain the processes for unserviceable diagnostic equipment and technical information systems</p>
<p>4 Understand how to assist workshop</p>	<p>4.1 Explain how you would support staff</p>

operations by providing technical support in motor vehicle Environments	4.2 Explain how you would support your line management
Additional information about the unit	
Unit purpose and aim(s)	The aim of this unit is to develop fundamental management skills which learners should possess. In doing so, learners will be in a stronger and more confident position to manage a team to achieve team tasks and objectives
Unit expiry date	31 August 2020
Assessment requirements specified by a sector or regulatory body (if appropriate)	
Name of the organisation submitting the unit	Defence Awarding Organisation
Availability for use	Restricted

URN:	D/615/1103
Title:	Motor Vehicle Environment Technical Competence
Level:	4
Credit value:	18
GLH	185
TQT:	185
Learning outcomes	Assessment criteria
<i>The learner will:</i>	<i>The learner can:</i>
1 Identify and agree the customers' motor vehicle needs	<p>1.1 Describe what relevant information you would need to obtain from the customer to make an assessment of their own and perceived vehicle needs</p> <p>1.2 Explain what accurate current and relevant advice and information you would provide customers with</p> <p>1.3 Explain what agreements are required to form a contract with the customer before accepting the vehicle</p> <p>1.4 Carry out record keeping in line with organisational policies</p> <p>1.5 Explain what actions are required where the contracted agreement is likely to be exceeded</p>
2 Ensure continued supervision of the safety regulations in a motor vehicle environment	<p>2.1 Carryout organisational safety procedures at all time</p> <p>2.2 Monitor your own personal safety at all times</p> <p>2.3 Ensure the safety of others around you is continually monitored</p> <p>2.4 Adhere with and supervise health and safety regulations for the use of equipment and hand tools</p> <p>2.5 Explain the procedure for reporting defective equipment and tools</p> <p>2.6 Ensure correct use of suitable personal protective equipment and vehicle coverings throughout all vehicle maintenance, removal, replacement, fitting and overhaul activities</p> <p>2.7 Work in a way which minimises the risk of:</p> <ul style="list-style-type: none"> <li>• Injury to other people and damage to their property</li> <li>• damage to the vehicle</li> <li>• damage to other vehicle systems</li> <li>• damage to other components and units</li> <li>• contact with leakages</li> <li>• contact with hazardous substances damage to your working</li> </ul>

	environment
3 Carry out effective record keeping and customer service	<p>3.1 Where system adjustments cannot be made within the manufacturer's specification, record the details accurately and take action which complies with the customer's instructions</p> <p>3.2 Report any problems or issues relating to the vehicle's condition or conformity to the relevant person(s) promptly</p> <p>3.3 Complete all activities within the agreed timescale</p> <p>3.4 Report any anticipated delays in completion to the relevant persons(s) promptly</p> <p>3.5 Record and report any additional faults you notice during the course of your work promptly</p> <p>3.6 Ensure your records are accurate, complete and passed to the relevant person(s) promptly in the format required in line with organisational policies</p> <p>3.7 Inform the relevant person(s) promptly where repairs are uneconomic or unsatisfactory to perform</p>
4 Carry out routine motor vehicle maintenance	<p>4.1 Use suitable sources of technical information to support all your vehicle maintenance activities</p> <p>4.2 Adhere to the correct specifications and tolerances for the vehicle when making assessments of system and component performance</p> <p>4.3 Use the tools and equipment required correctly and safely throughout all maintenance activities</p> <p>4.4 Where the customer's vehicle falls outside the manufacturer's original specification, record details accurately and use this adapted specification as the basis for your examination and assessment</p> <p>4.5 Examine the vehicle's systems and components following:</p> <ul style="list-style-type: none"> <li>• The manufacturer's approved examination methods</li> <li>• Recognised researched repair methods</li> </ul> <p>4.6 Ensure your examination methods identify accurately any vehicle system and component problems falling outside the maintenance schedule specified</p> <p>4.7 Carry out adjustments, replacement of vehicle components and replenishment of consumable materials following the manufacturer's current specification for:</p> <ul style="list-style-type: none"> <li>• the particular maintenance interval</li> <li>• working methods and procedures</li> <li>• use of equipment</li> <li>• the tolerances for the vehicle</li> </ul> <p>4.8 Use suitable testing methods to evaluate the performance of all replaced and adjusted components and systems accurately, prior to returning the vehicle to the customer</p>
5 Remove and replace motor engine units	5.1 Support your removal and replacement activities by reviewing:

<p>and components</p>	<ul style="list-style-type: none"> <li>• vehicle technical data</li> <li>• removal and replacement procedures</li> <li>• legal requirements</li> </ul> <p>5.2 Prepare, test and use all the equipment required following manufacturers' instructions</p> <p>5.3 Carry out all removal and replacement activities following;</p> <ul style="list-style-type: none"> <li>• manufacturers' instructions</li> <li>• recognised researched repair methods</li> </ul> <p>5.4 Ensure replaced engine components and units conform to the vehicle operating specification and any legal requirements</p> <p>5.5 Use suitable testing methods to evaluate the performance of the reassembled system accurately</p> <p>5.6 Ensure the reassembled system performs to the vehicle operating specification and meets any legal requirements prior to return to the customer</p>
<p>6 Remove and replace motor electrical units and components</p>	<p>6.1 Support your removal and replacement activities by reviewing:</p> <ul style="list-style-type: none"> <li>• vehicle technical data</li> <li>• removal and replacement procedures</li> <li>• legal requirements</li> </ul> <p>6.2 Prepare, test and use all the equipment required following manufacturers' instructions</p> <p>6.3 Carry out all removal and replacement activities following;</p> <ul style="list-style-type: none"> <li>• manufacturers' instructions</li> <li>• recognised researched repair methods</li> </ul> <p>6.4 Ensure replaced electrical auxiliary units and components conform to the vehicle operating specification and any legal requirements</p> <p>6.5 Use suitable testing methods to evaluate the performance of the reassembled system accurately</p> <p>6.6 Ensure the reassembled system performs to the vehicle operating specification and meets any legal requirements prior to return to the customer</p>
<p>7 Remove and replace motor vehicle chassis units and components</p>	<p>7.1 Support your removal and replacement activities by reviewing:</p> <ul style="list-style-type: none"> <li>• vehicle technical data</li> <li>• removal and replacement procedures</li> <li>• legal requirements</li> </ul> <p>7.2 Prepare, test and use all the equipment required following manufacturers' instructions</p> <p>7.3 Carry out all removal and replacement activities following;</p> <ul style="list-style-type: none"> <li>• manufacturers' instructions</li> <li>• recognised researched repair methods</li> </ul> <p>7.4 Ensure replaced chassis units and components conform to the vehicle operating specification and any legal</p>

	<p>requirements</p> <p>7.5 Use suitable testing methods to evaluate the performance of the reassembled system accurately operating specification and meets any legal requirements prior to return to the customer</p> <p>7.6 Ensure the reassembled system performs to the vehicle</p>
8 Remove and fit basic Motor Mechanical, Electrical and Trim (MET) components and non-permanently fixed vehicle body panels	<p>8.1 Protect the vehicle and its contents effectively when removing and fitting basic MET components and non-welded non-structural body panels</p> <p>8.2 Select and use the correct tools and equipment for the panels or components you are going to remove or fit</p> <p>8.3 Ensure that the tools and equipment you require are in a safe working condition</p> <p>8.4 Remove and fit basic MET components and non-welded non-structural body panels following:</p> <ul style="list-style-type: none"> <li>• removal and fitting procedures</li> <li>• manufacturers' instructions</li> <li>• your workplace procedures</li> </ul> <p>8.5 Avoid damaging other components, units and panels on the vehicle</p> <p>8.6 Store all removed panels and components safely in the correct location</p> <p>8.7 Realign the panels and components you have fitted correctly in a way which regains their original manufactured gaps</p> <p>8.8 Check that the components you have fitted operate correctly following the manufacturer's specification</p> <p>8.9 Remove and fit basic met components or non-welded non-structural body panels within the agreed timescale</p>
9 Overhaul motor mechanical units	<p>9.1 Use suitable sources of technical information to support your overhauling activities.</p> <p>9.2 Assess and prepare all the equipment required, following manufacturers' instructions, prior to use.</p> <p>9.3 Use the tools and equipment required correctly and safely throughout all overhauling activities.</p> <p>9.4 Carry out all overhauling activities following:</p> <ul style="list-style-type: none"> <li>• manufacturers' instructions</li> <li>• recognised researched repair methods</li> <li>• your workplace procedures</li> <li>• health and safety requirements</li> </ul> <p>9.5 Ensure your assessment of the dismantled units identifies accurately its condition and suitability for overhaul</p> <p>9.6 Use testing methods which comply with the manufacturer's requirements</p> <p>9.7 When necessary, adjust the unit's components correctly to ensure that they operate to meet the vehicle operating requirements</p>



	9.10 Ensure the overhauled units and assemblies conform to the vehicle operating specification and any legal requirements
10 Remove and replace motor vehicle driveline units and components	<p>10.1 Support your removal and replacement activities by reviewing:</p> <ul style="list-style-type: none"> <li>• vehicle technical data</li> <li>• removal and replacement procedures</li> <li>• legal requirements</li> </ul> <p>10.2 Prepare, set up, test and use all the equipment required following manufacturers' instructions</p> <p>10.3 Carry out all removal and replacement activities following:</p> <ul style="list-style-type: none"> <li>• manufacturers' instructions</li> <li>• recognised researched repair methods</li> </ul> <p>10.4 Ensure replaced driveline units and components conform to the vehicle operating specification and any legal requirements</p> <p>10.5 Use suitable testing methods to evaluate the performance of the reassembled system accurately</p> <p>10.6 Ensure the reassembled driveline system performs to the vehicle operating specification and meets any legal requirements prior to return to the customer</p>
Additional information about the unit	
Unit purpose and aim(s)	The aim of this unit is to develop fundamental management skills which learners should possess. In doing so, learners will be in a stronger and more confident position to manage a team to achieve team tasks and objectives
Unit expiry date	31 August 2020
Assessment requirements specified by a sector or regulatory body (if appropriate)	
Name of the organisation submitting the unit	Defence Awarding Organisation
Availability for use	Restricted

URN:	H/615/1104
Title:	Unit 5 - Vehicle Inspections
Level:	4
Credit value:	5
GLH	45
TQT:	45
Learning outcomes	Assessment criteria
<i>The learner will:</i>	<i>The learner can:</i>
1 Ensure continued supervision of the safety regulations in a motor vehicle environment	1.1 Carryout organisational safety procedures at all time 1.2 Monitor your own personal safety at all times 1.3 Ensure the safety of others around you is continually monitored 1.4 Adhere with and supervise health and safety regulations for the use of equipment and hand tools 1.5 Explain the procedure for reporting defective equipment and tools 1.6 Ensure correct use of suitable personal protective equipment and vehicle coverings throughout all vehicle maintenance, removal, replacement and fitting and overhaul activities 1.7 Work in a way which minimises the risk of: <ul style="list-style-type: none"> <li>• injury to other people and damage to their property</li> <li>• damage to the vehicle</li> <li>• damage to other vehicle systems</li> <li>• damage to other components and units</li> <li>• contact with leakages</li> <li>• contact with hazardous substances</li> <li>• damage to your working environment</li> </ul>
2 Carry out effective record keeping and customer service	2.1 Where system adjustments cannot be made within the manufacturer's specification, record the details accurately and take action which complies with the customer's instructions 2.2 Report any problems or issues relating to the vehicle's condition or conformity to the relevant person(s) promptly 2.3 Complete all activities within the agreed timescale 2.4 Report any anticipated delays in completion to the relevant

	<p>persons(s) promptly</p> <p>2.5 Record and report any additional faults you notice during the course of your work promptly</p> <p>2.6 Ensure your records are accurate, complete and passed to the relevant person(s) promptly in the format required in line with organisational policies</p> <p>2.7 Inform the relevant person(s) promptly where repairs are uneconomic or unsatisfactory to perform</p>
3 Inspect motor vehicles using prescribed inspection methods	<p>3.1 Use suitable sources of technical information to support your vehicle inspection activities</p> <p>3.2 Carry out systematic vehicle inspections following:</p> <ul style="list-style-type: none"> <li>• manufacturer's approved procedures</li> <li>• recognised researched repair methods</li> <li>• prescribed documentation</li> </ul> <p>3.3 Confirm all systems and components inspected, function correctly following the manufacturer's specifications</p> <p>3.4 Ensure your comparison of the vehicle against specification accurately identifies:</p> <ul style="list-style-type: none"> <li>• differences from the vehicle specification</li> <li>• vehicle appearance and condition faults</li> </ul>
4 Inspect motor vehicles	<p>4.1 Use suitable sources of technical information to support your vehicle inspection activities</p> <p>4.2 Where necessary, confirm that equipment has been calibrated to meet manufacturers' and legal requirements</p> <p>4.3 Conduct all vehicle inspections and testing following:</p> <ul style="list-style-type: none"> <li>• the manufacturer's approved examination methods</li> <li>• recognised researched methods</li> <li>• your workplace procedures</li> </ul> <p>4.4 Ensure your inspection and testing of the vehicle against specification accurately identifies:</p> <ul style="list-style-type: none"> <li>• differences from the vehicle specification</li> <li>• vehicle appearance and condition faults</li> <li>• non-compliance with statutory requirements</li> </ul>
Additional information about the unit	
Unit purpose and aim(s)	The aim of this unit is to develop fundamental management skills which learners should possess. In doing so, learners will be in a stronger and more confident position to manage a team to achieve team tasks and objectives
Unit expiry date	31 August 2020
Assessment requirements specified by a sector or regulatory body (if appropriate)	

Name of the organisation submitting the unit	Defence Awarding Organisation
Availability for use	Restricted

URN:	K/615/1105
Title:	Identify, Diagnose and Rectify Faults In a Motor Vehicle Environment
Level:	4
Credit value:	13
GLH	125
TQT:	125
Learning outcomes	Assessment criteria
<i>The learner will:</i>	<i>The learner can:</i>
1 Identify and agree the motor vehicle customer needs	<p>1.1 Describe what relevant information you would need to obtain from the customer to make an assessment of their own and perceived vehicle needs</p> <p>1.2 Explain what accurate current and relevant advice and information you would provide customers with</p> <p>1.3 Explain what agreements are required to form a contract with the customer before accepting the vehicle</p> <p>1.4 Carry out record keeping in line with organisational policies</p> <p>1.5 Explain what actions are required where the contracted agreement is likely to be exceeded</p>
2 Ensure continued supervision of the safety regulations in a motor vehicle environment	<p>2.1 Carryout organisational safety procedures at all time</p> <p>2.2 Monitor your own personal safety at all times</p> <p>2.3 Ensure the safety of others around you is continually monitored</p> <p>2.4 Adhere with and supervise health and safety regulations for the use of equipment and hand tools</p> <p>2.5 Explain the procedure for reporting defective equipment and tools</p> <p>2.6 Ensure correct use of suitable personal protective equipment and vehicle coverings throughout all vehicle maintenance, removal, replacement and fitting and overhaul activities</p> <p>2.7 Work in a way which minimises the risk of:</p> <ul style="list-style-type: none"> <li>• injury other people and damage to their property</li> <li>• damage to the vehicle</li> <li>• damage to other vehicle systems</li> <li>• damage to other components and units</li> <li>• contact with leakages</li> <li>• contact with hazardous substances</li> <li>• damage to your working environment</li> </ul>
3 Carry out effective record keeping and customer service	<p>3.1 Respond to customer's concerns in a positive and friendly manner</p>

	<p>3.2 Make suitable recommendations for future action based upon the results of your tests and inspections</p> <p>3.3 explain the reasons for your recommendations to the relevant person(s)</p> <p>3.4 Offer alternative options from your recommendations if the customer does not agree to your plan for future action</p> <p>3.5 Ensure your records are accurate, complete and passed to the relevant person(s) promptly in the format required. (this includes all vehicle related paperwork)</p> <p>3.6 Complete all activities within the agreed timescale and to specification</p> <p>3.7 Report any anticipated delays in completion to the relevant person(s) promptly</p> <p>3.8 Inform the relevant person(s) promptly where repairs are uneconomic or unsatisfactory to perform</p>
<p>4 Diagnose faults where no prescribed process or format is available in motor vehicle environments</p>	<p>4.1 Confirm with the relevant people that all standard diagnostic procedures and techniques have been systematically and correctly applied to the vehicle prior to undertaking further work</p> <p>4.2 Analyse all previous system fault information, diagnostic test methods and results correctly to verify the inconclusive results prior to undertaking further work</p> <p>4.3 Liaise with the relevant manufacturer's representative to obtain up to date information, advice and guidance relevant to the identified fault</p> <p>4.4 Use diagnostic methods which are relevant to the symptoms presented</p> <p>4.5 Collect diagnostic information in a systematic and structured way which progressively eliminates all possible causes of the fault</p> <p>4.6 Apply the checks and tests that are most likely to be effective in revealing the cause of the fault</p> <p>4.7 Carry out all diagnostic activities following:</p> <ul style="list-style-type: none"> <li>• your workplace procedures</li> <li>• health and safety requirements</li> </ul> <p>4.8 Collect sufficient diagnostic information to enable an accurate diagnosis of the fault</p> <p>4.9 Correctly identify the cause(s) of the fault</p> <p>4.10 Identify and record any system deviation from acceptable limits accurately</p> <p>4.11 Ensure your assessment of dismantled sub-assemblies, components and NOSs identifies their condition and suitability for repair or replacement, accurately</p> <p>4.12 Make clear recommendations for a suitable course of action to rectify the fault</p> <p>4.13 Complete all system checks and tests in the most cost</p>

	and time effective way for the fault presented
5 Conduct diagnostic consultations with customers in motor vehicle environments	<p>5.1 Give a positive impression of yourself and your organisation when dealing with customers</p> <p>5.2 Obtain sufficient, detailed information using suitably structured questions</p> <p>5.3 Carry out a suitable road test to obtain further detailed information on, or clarification of, customer's concerns</p> <p>5.4 Provide customers with accurate, current and relevant advice and information on any further investigation(s) needed</p> <p>5.5 Explain the implications of any investigation(s) that may be needed clearly</p> <p>5.6 Give technical advice and information accurately, clearly and in a form and manner which the customer will understand</p> <p>5.7 Make clear and relevant recommendations for the next course of action</p> <p>5.8 Liaise with the customer and or other relevant person(s) to agree the next course of action</p> <p>5.9 Explain to customers the action that has been taken regarding their vehicle clearly</p> <p>5.10 Ensure records are complete, accurate, in the format required and signed by the customer, when necessary</p> <p>5.11 Suggest possible methods for improving the customer care process to your manager, when necessary</p>
6 Diagnose and rectify motor vehicle engine and component faults	<p>6.1 Support the identification of Engine and Component faults, by reviewing vehicle:</p> <ul style="list-style-type: none"> <li>• technical data</li> <li>• diagnostic test procedures</li> </ul> <p>6.2 Prepare, connect and test all the required equipment following manufacturers' instructions prior to use</p> <p>6.3 Use diagnostic methods which are relevant to the symptoms presented</p> <p>6.4 Collect sufficient diagnostic information in a systematic way to enable an accurate diagnosis of engine system faults</p> <p>6.5 Identify and record any system deviation from acceptable limits accurately</p> <p>6.6 Ensure your assessment of dismantled sub-assemblies, components and units identifies their condition and suitability for repair or replacement, accurately</p> <p>6.7 Carry out all diagnostic and rectification activities following:</p> <ul style="list-style-type: none"> <li>• Manufacturers' instructions</li> <li>• Recognised researched repair methods</li> <li>• Your workplace procedures</li> </ul> <p>6.8 Ensure all repaired and replaced components and units conform to the vehicle operating specification and any legal requirements</p>

	<p>6.9 Adjust components and units correctly to ensure that they operate to meet system requirements</p> <p>6.10 Use testing methods which are suitable for assessing the performance of the system rectified</p> <p>6.11 Ensure the engine system rectified performs to the vehicle operating specification and any legal requirements prior to return to the customer</p>
<p>7 Diagnose and rectify motor vehicle chassis system faults</p>	<p>7.1 Support the identification of Chassis System faults, by reviewing vehicle:</p> <ul style="list-style-type: none"> <li>• technical data</li> <li>• diagnostic test procedures</li> </ul> <p>7.2 Prepare, connect and test all the required equipment following manufacturers' instructions prior to use</p> <p>7.3 Use diagnostic methods which are relevant to the symptoms presented</p> <p>7.4 Collect diagnostic information in a systematic way relevant to the diagnostic methods used</p> <p>7.5 Collect sufficient diagnostic information to enable an accurate diagnosis of chassis system faults</p> <p>7.6 Identify and record any system deviation from acceptable limits accurately</p> <p>7.7 Ensure your assessment of dismantled sub-assemblies, components and units identifies their condition and suitability for repair or replacement, accurately</p> <p>7.8 Carry out all rectification activities following:</p> <ul style="list-style-type: none"> <li>• manufacturers' instructions</li> <li>• your workplace procedures</li> </ul> <p>7.9 Ensure all repaired and replaced components and units conform to the vehicle operating specification and any legal requirements</p> <p>7.10 When necessary, adjust components and units correctly to ensure that they operate to meet system requirements</p> <p>7.11 Use testing methods which are suitable for assessing the performance of the system rectified</p> <p>7.12 Ensure the chassis system rectified performs to the vehicle operating specification and any legal requirements prior to return to the customer</p>
<p>8 Diagnose and rectify motor vehicle transmission and driveline system faults</p>	<p>8.1 Support the identification of Transmission and Driveline System faults, by reviewing vehicle:</p> <ul style="list-style-type: none"> <li>• technical data</li> <li>• diagnostic test procedures</li> </ul> <p>8.2 Prepare, connect and test all the required equipment following manufacturers' instructions prior to use</p> <p>8.3 Use diagnostic methods which are relevant to the symptoms presented</p> <p>8.4 Collect diagnostic information in a systematic way relevant to</p>



	<p>the diagnostic methods used</p> <p>8.5 Collect sufficient diagnostic information to enable an accurate diagnosis of transmission and driveline system faults</p> <p>8.6 Identify and record any system deviation from acceptable limits accurately</p> <p>8.7 Ensure your assessment of dismantled sub-assemblies, components and units identifies their condition and suitability for repair or replacement, accurately</p> <p>8.8 Use the equipment required, correctly and safely throughout all diagnostic and rectification activities</p> <p>8.9 Carry out all diagnostic and rectification activities following:</p> <ul style="list-style-type: none"> <li>• manufacturers' instructions</li> <li>• recognised researched repair methods</li> <li>• your workplace procedures</li> <li>• health and safety requirements</li> </ul> <p>8.10 Ensure all repaired and replaced components and units conform to the vehicle operating specification and any legal requirements</p> <p>8.11 When necessary, adjust components and units correctly to ensure that they operate to meet system requirements</p> <p>8.12 Use testing methods which are suitable for assessing the performance of the system rectified</p> <p>8.13 Ensure the transmission and driveline system rectified performs to the vehicle operating specification and any legal requirements prior to return to the customer</p>
<p>9 Diagnose and rectify motor electrical unit and component faults</p>	<p>9.1 Support the identification of electrical faults, by reviewing vehicle:</p> <ul style="list-style-type: none"> <li>• technical data</li> <li>• diagnostic test procedures</li> </ul> <p>9.2 Prepare, connect and test all the required electrical and electronic testing equipment following manufacturers' instructions prior to use</p> <p>9.3 Use electrical and electronic testing techniques which are relevant to the symptoms presented</p> <p>9.4 Collect sufficient diagnostic information in a systematic way to enable an accurate diagnosis of electrical system faults</p> <p>9.5 Identify and record any system deviation from acceptable limits accurately</p> <p>9.6 Make cost effective recommendations for rectification based upon your analysis of the diagnostic information gained</p> <p>9.7 Carry out all diagnostic &amp; rectification activities following:</p> <ul style="list-style-type: none"> <li>• manufacturers' instructions</li> <li>• recognised researched repair methods</li> </ul> <p>9.8 Ensure all repaired and replaced electrical components and units conform to the vehicle operating specification and any</p>

	<p>legal requirements</p> <p>9.9 Adjust components and use correctly to ensure that they operate to meet system requirements</p> <p>9.10 Ensure the electrical system rectified performs to the vehicle operating specification and any legal requirements prior to return to the customer</p>
Additional information about the unit	
Unit purpose and aim(s)	The aim of this unit is to develop fundamental management skills which learners should possess. In doing so, learners will be in a stronger and more confident position to manage a team to achieve team tasks and objectives
Unit expiry date	31 August 2020
Assessment requirements specified by a sector or regulatory body (if appropriate)	
Name of the organisation submitting the unit	Defence Awarding Organisation
Availability for use	Restricted