



مجلس أبوظبي للجودة والمطابقة
ABU DHABI QUALITY & CONFORMITY COUNCIL

ABU DHABI OCCUPATIONAL TERMS

Automotive Technician Level 4 - Electrician



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Amendment Page

This Amendment Page is updated and issued with each set of revised and/or new pages of the document to help ensure that each copy of this Abu Dhabi Occupation Term (ADOT) contains a complete record of amendments.

This Occupational Term is a live document which can be amended when necessary. QCC operates an Occupational Standards Working Group that has prepared this document, and can review stakeholder comments in order to review and amend this document; ultimately resulting in an issuance of an updated version, if necessary.

Log of Amendments						
Amendment			Discard		Insert	
No.	Date	*Sections Changed	Page(s)	Issue No.	Page(s)	Issue No.
1	xxx	Document launched				



About the Abu Dhabi Quality & Conformity Council

The Abu Dhabi Quality and Conformity Council (QCC) was established by law No. 3 of 2009, issued by His Highness Sheikh Khalifa Bin Zayed Al Nahyan, President of the UAE. QCC is responsible for the development of Abu Dhabi Emirate's Quality Infrastructure, which enables industry and regulators to ensure that products, systems and personnel can be tested and certified to UAE and International Standards.

Products and services certified by QCC receive the Abu Dhabi Trustmark. The Trustmark is designed to communicate that a product or system conforms to various safety and performance standards that are set by Abu Dhabi regulators.

Foreword

The QCC Car Workshops Personnel Occupational Terms Working Group was initiated in January 2017 in order to establish occupational terms for workers in the car workshops sector in Abu Dhabi to elevate the quality of services provided in the sector and to promote the productivity of personnel.

The occupational terms are professional standards that specialist personnel must meet in order to perform the jobs they are assigned to produce quality outcomes. The Government of Abu Dhabi, under the leadership of His Highness Sheikh Khalifa bin Zayed Al Nahyan, President of the UAE and Ruler of Abu Dhabi, and His Highness Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi, Deputy Supreme Commander of the UAE Armed Forces and Chairman of the Abu Dhabi Executive Council, has invested heavily, and at high levels of professionalism and safety, in the Infrastructure of Abu Dhabi. Therefore, it is crucial and obligatory to encourage the presence of skilled workmanship to maintain the quality infrastructure value in the Emirate of Abu Dhabi in particular and the United Arab Emirates in general.



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28	Khaldon Sousou	Eastern Motors Company
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30	Anas Jinna	Prestige Cars Service
31	Hari Janardhanan	Al Futtaim Auto Center
32	Masqood Ahmed	Al Futtaim Auto Center
33	Saleh Al Zaabi	Patriot Performance
34	Mohamed Al Mosaabi	Electra Auto
35	Syed Naveed	Bin Hamooda Auto
36	Rodyney Ghosn	Al Tayer Group



Occupational Terms

No.	Field	Details										
1.	Occupation (Standard Unit)	Automotive Technician Level 4 - Electrician										
2.	Description	This standard specifies the outcome required to perform repair and routine servicing of electrical and electronic faults in the vehicle across the various sub-systems and components										
3.	Unit type	<input type="checkbox"/> Knowledge and Skills OR <input checked="" type="checkbox"/> Application										
4.	Elements	<table border="1"> <thead> <tr> <th>No.</th> <th>Element</th> </tr> </thead> <tbody> <tr> <td>E1</td> <td><i>Carry out service and repairs of electrical and electronic faults in a vehicle</i></td> </tr> <tr> <td>E2</td> <td><i>Plan and organize work to meet expected outcomes</i></td> </tr> <tr> <td>E3</td> <td><i>Work effectively in a team</i></td> </tr> <tr> <td>E4</td> <td><i>Maintain a healthy, safe and secure working environment</i></td> </tr> </tbody> </table>	No.	Element	E1	<i>Carry out service and repairs of electrical and electronic faults in a vehicle</i>	E2	<i>Plan and organize work to meet expected outcomes</i>	E3	<i>Work effectively in a team</i>	E4	<i>Maintain a healthy, safe and secure working environment</i>
No.	Element											
E1	<i>Carry out service and repairs of electrical and electronic faults in a vehicle</i>											
E2	<i>Plan and organize work to meet expected outcomes</i>											
E3	<i>Work effectively in a team</i>											
E4	<i>Maintain a healthy, safe and secure working environment</i>											
5.	QF Emirates level	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10										
6.	Function	<input type="checkbox"/> Policy and strategy QF 9-10 <input type="checkbox"/> Managing QF 7-8 <input type="checkbox"/> Specifying QF 6-7 <input type="checkbox"/> Controlling QF 6 <input type="checkbox"/> Maintaining capability QF 4-6 <input checked="" type="checkbox"/> Performing/carry out QF 1-4										
7.	Entry information and prerequisites	High School Diploma/Industrial Training/Diploma (mechanical, electrical, automobile) Engineering										
8.	Grading	Application unit: <i>Competent/Not Yet Competent</i>										



No.	Field	Details	
9.	Industry sector	Automotive	
10.	Developed by	Government Entities	Abu Dhabi Quality & Conformity Council, Zones Corp, Abu Dhabi Department of Economic Development, Abu Dhabi Urban Planning Council, Abu Dhabi Municipality, OSHAD, Center of Waste Management, Abu Dhabi Chamber, Health Authority Abu Dhabi, ACTVET, National Qualification Authority, SAAED for Trafficking Systems and the Ministry of Human Resources & Emiratisation
		Private Sector	Al Tayer Group, Emirates Motor Company, Ali & Sons Group, Al Futtaim Automobile and Prestige Car Services
11.	Endorsement date	11 April 2017	
12.	Frequency of review	Annually	
13.	Version No.	1	
14.	ISCO-88	7231 Motor Vehicle Mechanics & Repairers	

Terms & Conditions

Term	Description
Dealership	A business established or operated under an authorisation to sell or distribute an automotive company's goods and services
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization
Performance Criteria	Performance Criteria are statements that together specify the standard of performance required when carrying out a task
OEM	Original Equipment Manufacturer
Vehicle	Mode of personal transport including 2-wheelers, 3-wheelers and 4- wheelers



Performance Criteria

Element	1. Carry out service and repairs of electrical and electronic faults in a vehicle
PC 1.1	Understand the auto component manufacturer specifications related to the various electrical and electronic components
PC 1.2	Follow standard operating procedures for using workshop tools and equipment for repair of electrical/electronic components in a vehicle
PC 1.3	Review the job card and understand work to be carried out in the electrical/electronic components as indicated by the supervisor or service advisor
PC 1.4	Ensure that the correct spare parts, tools and other materials required for the service and repair of the electrical/electronic components have been obtained
PC 1.5	Repair and overhaul stability/steering/ suspension systems
PC 1.6	Repair and overhaul electric over hydraulic systems
PC 1.7	Repair and overhaul engine management systems
PC 1.8	Repair and overhaul transmission/driveline systems
PC 1.9	Repair and overhaul braking systems
PC 1.10	Repair and overhaul safety systems
PC 1.11	Repair and overhaul monitoring/protection systems
PC 1.12	Repair and overhaul convenience and entertainment systems
PC 1.13	Repair and overhaul theft deterrent systems
PC 1.14	Repair and overhaul electric and hybrid vehicle systems
PC 1.15	Repair and overhaul climate control systems
PC 1.16	Repair and overhaul gearbox, drive-train assembly and transmission systems
PC 1.17	Repair and overhaul electrical harness, lighting, ignition, electronic and air conditioning systems
PC 1.18	Repair and overhaul active and passive safety, media, comfort and convenience, supplementary restraint systems (SRS), networking and other systems
PC 1.19	Repair and overhaul electronic control unit
PC 1.20	Repair and overhaul hydraulic and pneumatic systems
PC 1.21	Repair all electrical and electronic faults including direct faults in: input sensors, output actuators, wiring harnesses, computer systems, calibration/adjustments specifications, component specifications, component assembly and damage, system modifications
PC 1.22	Repair indirect faults caused on the major mechanical or other components by the influence of electrical and electronic component
PC 1.23	Remove, refit and test electrical components for normal operation following major/minor body repair activities
PC 1.24	Dismantle, assess, repair, clean, replace, adjust and reassemble vehicle electric and electronic units
PC 1.25	Ensure all dismantled components (other than the electrical or electronic components) are cleaned and conditioned prior to reassembly
PC 1.26	Ensure disposal of materials in accordance with the Emirate's policies



Cont.	
PC 1.27	Understand the various precautions to be taken to avoid damage to other components of a vehicle while working on electrical/ electronic components
PC 1.28	Record all service and repairs carried out and ensure completeness of tasks assigned before releasing vehicle for the next procedure
PC 1.29	Ensure all workshop tools, equipment and workstations are adequately maintained by carrying out scheduled checks, calibration and timely repairs where necessary
PC 1.30	Ensure any malfunctions observed in tools and equipment are reported to the concerned persons
PC 1.31	Request assistance from a senior technician or component specialist when required
PC 1.32	Inform the relevant persons where repairs are economically or technically infeasible
PC 1.33	Ensure that trainings organized by the OEM from time-to-time are attended and knowledge levels are upgraded
PC 1.34	Have the ability to read the wiring diagrams
PC 1.35	Assist in removal and replacement related work under supervision of Senior Body Technician, i.e: transfers and decals of electric & electronic units/assemblies

Element	2. Plan and organize work to meet expected outcomes
PC 2.1	Keep immediate work area clean and tidy
PC 2.2	Treat confidential information as per the company's guidelines
PC 2.3	Work in line with company's policies and procedures
PC 2.4	Work within the limits of the job role
PC 2.5	Obtain guidance from appropriate people, where necessary
PC 2.6	Ensure work meets the agreed requirements
PC 2.7	Establish and agree on work requirements with appropriate people
PC 2.8	Manage time, materials and cost effectively
PC 2.9	Use resources in a responsible manner

Element	3. Work effectively in a team
PC 3.1	Maintain clear communication with colleagues (by all means including face-to-face, telephonic as well as written)
PC 3.2	Work with colleagues to integrate work
PC 3.3	Pass on information to colleagues in line with organizational requirements both through verbal as well as non-verbal means
PC 3.4	Work in ways that show respect for colleagues
PC 3.5	Carry out commitments made to colleagues
PC 3.6	Let colleagues know in good time if cannot carry out commitments, explaining the reasons
PC 3.7	Identify problems in working with colleagues and take the initiative to solve these problems
PC 3.8	Follow the company's policies and procedures for working with colleagues



Element	4. Maintain a healthy, safe and secure working environment
PC 4.1	Comply with the Emirate's current health, safety and security policies and procedures
PC 4.2	Report any identified breaches in health, safety, and security policies and procedures to the designated person/authority
PC 4.3	Coordinate with other resources at the workplace to achieve the healthy, safe and secure environment for all incorporating all government norms esp. for emergency situations like fires, earthquakes etc.
PC 4.4	Identify and correct any hazards like illness, accidents, fires or any other natural calamity safely and within the limits of individual's authority
PC 4.5	Report any hazards outside the individual's authority to the relevant person, and warn other people who may be affected
PC 4.6	Follow the company's/Emirate's emergency procedures for accidents, fires or any other natural calamity
PC 4.7	Identify and recommend opportunities for improving health, safety, and security to the designated person
PC 4.8	Complete all health and safety records
PC 4.9	Understand the safety dress & PPE types and adhere to the proper dress code & PPE requirements in the work area

Knowledge & Understanding

- *To carry out service and repairs of electrical and electronic faults in a vehicle, the user/individual on the job must know and understand:*
 1. Standard operating procedures for servicing, repair and replacement of electrical/ electronic parts
 2. Standard operating procedures recommended by the Dealership/Suppliers/OEM for using tools and equipment for electrical and electronic components
 3. Safety requirements for equipment within the tolerance limits used for service/ repair of electrical/ electronic components as prescribed by the OEM
 4. Identification codes, nomenclature of various electrical/ electronic components
 5. Standard operating procedures for rectification of errors in information (e.g. rectification of job card, reissue of correct tools and equipment etc.)
 6. Documentation requirements for each procedure carried out as part of roles and responsibilities as specified by OEM/ auto component manufacturer
 7. Organizational and professional code of ethics and standards of practice
 8. Safety, health and environmental policies and regulations for the workplace as well as for automotive trade in general
 9. Regulatory requirements for vehicles including road safety, refrigerant handling, fuel storage and other requirements



10. Operating specifications provided by the OEM for limits, fits and tolerances relating to engine electrical, electronic and hydraulic and fluid systems for the vehicle
 11. The basic technology used in and functioning of various components of the vehicle
 12. The tools used to assess and confirm technical faults that cannot be determined through a visual inspection
 13. The various sources of information available for assessing serviceability of the vehicle
 14. How to modify and repair electric and electronic systems to correct faults
 15. How to dismantle, assess, repair, clean, condition, replace, adjust and reassemble and test electronic and electric components for correct operation
 16. The functioning of the vehicle battery and its schedule for change of water (as indicated by the battery manufacturer) and ensure that overcharging of the battery is avoided
 17. How to dispose of replaced failed electrical/ electronic components in accordance with safety, health and environmental policies and regulations
 18. Precautions to be taken to ensure no damage to the vehicle nor its electric systems and no contact with hazardous materials while working
 19. Basic principles of: Ohm's Law, Voltage, Power, Current (AC/DC), Resistance. Magnetism, Vehicle Earthing, Types of Circuit Protection and Operations of electronic and electrical engine systems
- *To plan and organize work to meet expected outcomes, the user/individual on the job must know and understand:*
1. The company's policies, procedures and priorities for area of work, role and responsibilities in carrying out that work
 2. The limits of responsibilities and when to involve others
 3. Specific work requirements and who these must be agreed with
 4. The importance of having a tidy work area and how to do this
 5. How to prioritize workload according to urgency and importance and the benefits of this
 6. The company's policies and procedures for dealing with confidential information and the importance of complying with these
 7. The purpose of keeping others updated with the progress of work
 8. Who to obtain guidance from and the typical circumstances when this may be required
 9. The purpose and value of being flexible and adapting work plans
 10. How to complete tasks accurately by following standard procedures
 11. Technical resources needed for work and how to obtain and use these
 12. Time management Key Performance Indicators for accurate customer invoicing and estimation/quotes



13. Computer literacy at the minimum level of competencies of email/google search and MS office (Outlook/word/Excel)

- *To work effectively in a team, the user/individual on the job must know and understand:*
 1. The company's policies and procedures for working with colleagues, role and responsibilities in relation to this
 2. The importance of effective communication and establishing good working relationships with colleagues
 3. Different methods of communication and the circumstances in which it is appropriate to use these
 4. The importance of creating an environment of trust and mutual respect
 5. The implications of own work on the work and schedule of others
 6. Different types of information that colleagues might need and the importance of providing this information when it is required
 7. The importance of helping colleagues with problems, in order to meet quality and time standards as a team

- *To maintain a health, safe and secure working environment, the user/individual on the job must know and understand:*
 1. Legislative requirements and organisation's procedures for health, safety and security and individual's role and responsibilities in relation to this
 2. What is meant by a hazard, including the different types of health and safety hazards that can be found in the workplace
 3. How and when to report hazards
 4. The limits of responsibility for dealing with hazards
 5. The company's emergency procedures for different emergency situations and the importance of following these
 6. The importance of maintaining high standards of health, safety and security
 7. Implications that any non-compliance with health, safety and security may have on individuals and the organisation
 8. Implications that any non-compliance with health, safety and security may have on individuals and the organisation
 9. Different types of breaches in health, safety and security and how and when to report these
 10. Evacuation procedures for workers and visitors
 11. How to summon medical assistance and the emergency services, where necessary
 12. How to use the health, safety and accident reporting procedures and the importance of these



Other Skills

Writing Skills

- *To be competent, the user/individual on the job needs to:*
 - Record and document the basic details of repairs and maintenance performed on various components/ components
 - Record all diagnostics done by senior technicians as per the prescribed format recommended by the OEM/ auto-component manufacturer
 - Write in at least one language
 - Complete written work with attention to detail

Reading Skills

- *To be competent, the user/individual on the job needs to:*
 1. Read the basic specification of a vehicle or any other component or part
 2. Read work orders, specifications etc. related to the job including instructions mentioned on the job card
 3. Read the service circulars/ sign boards placed in the workshop with respect to the overall process to be followed for service, repair and maintenance of the vehicle
 4. Read any specific safety related guideline

Listening & Speaking Skills

- *To be competent, the user/individual on the job needs to:*
 1. Clearly communicate workplace information and ideas with colleagues (verbal and non- verbal)
 2. Use terms, names, grades, and other nomenclature pertaining to the Automotive trade, tools, specific workshop equipment etc.
 3. Communicate with colleagues and customers to handle verbal enquiries, such as clarifying indicated faults and problems indicated on a job card which would lead to the proper diagnosis of the issue to do an effective root cause analysis
 4. Communicate to the supervisor and service advisor, the results of the test performed and appropriate values to find the root cause of the problem
 5. Interact with the customer through Service Advisor/ Supervisor in case any additional work needs to be done on the vehicle which may not have been indicated in the job card and found during the work being carried out as per the job card

References

<http://www.ukstandards.org.uk>

www.nsdindia.org/nos