

## 1. Title of the certificate <sup>(TR)</sup>

**Otomotiv Elektromekanikçisi Mesleki Yeterlilik Belgesi**  
(Seviye 5)

<sup>(1)</sup> In the original language

## 2. Translated title of the certificate <sup>(EN)</sup>

**Automotive Electromechanic VQA Vocational Qualification Certificate**  
(Level 5)

<sup>(1)</sup> If applicable. This translation has no legal status.

## 3. Profile of skills and competences

A typical holder of the certificate is able to:

UNIT CODE	TYPE	UNITS
11UY0020-5/A1	MANDATORY	<p><b>Occupational Health and Safety, Environmental Management Systems</b></p> <ul style="list-style-type: none"> <li>• Knows the steps to be followed in case of emergency.</li> <li>• Has knowledge of the appropriate positions to leave the tools and apparatus that are separated from the vehicle and parts after operations at the level to describe.</li> <li>• Knows the operations related to defective hardware and vehicles at the level to explain.</li> <li>• Has knowledge about flammable and inflammable materials at working environment at the level to determine.</li> <li>• Is knowledgeable about keeping working environment and equipments in order.</li> <li>• Is knowledgeable about recyclable materials.</li> <li>• Knows the legislation on the occupational health and safety and workplace rules.</li> <li>• Knows the health and safety protection and intervention tools.</li> <li>• Has knowledge of risk analysis influencing occupational health and safety at the level to perform.</li> <li>• Knows the protective and preventive maintenance operations.</li> <li>• Is knowledgeable about risk analysis.</li> <li>• Knows the cleaning supplies and their usage instructions.</li> <li>• Has knowledge of basic first aid.</li> <li>• Knows the meanings of warning and signs.</li> <li>• Applies required procedures in case of emergency.</li> <li>• Applies occupational safety precautions.</li> <li>• Applies required first aid steps in case of working accident.</li> <li>• Takes the precautions related to the occupational health and safety.</li> <li>• Uses personal protective equipments.</li> <li>• Works in compliance with the meanings of warning and signs.</li> <li>• Determines the depreciated, end-of-life parts.</li> <li>• Determines the situations which can affect occupational health and safety at working environment.</li> <li>• Controls the operability of safety mechanisms related to the working hardwares.</li> <li>• Ensures the keeping of flammable and inflammable materials at the working environment safely.</li> <li>• Ensures the operativeness of occupational health and safety protection and intervention tools.</li> <li>• Determines the risk factors in advance and reduces the risk.</li> <li>• Places the warning and signs at appropriate positions.</li> <li>• Work according to the protection method to be applied.</li> </ul>

<p>11UY0020-5/A2</p>	<p>MANDATORY</p>	<p><b>Quality Management System</b></p> <ul style="list-style-type: none"> <li>• Knows the operations related to the information and evaluation forms.</li> <li>• Has knowledge of keeping working environment and equipments in order.</li> <li>• Has knowledge of quality assurance techniques at the level to conduct comparatively.</li> <li>• Has knowledge at the level to distinguish the negativities from the type of depreciation, abrasion and corrosion on the piece.</li> <li>• Knows his own jurisdiction at overcoming the problems.</li> <li>• Knows the cleaning supplies and their usage instructions.</li> <li>• Knows appropriate deviation and tolerance values according to quality requirements of the tests.</li> <li>• Knows the meanings of warning and signs.</li> <li>• Applies required procedures in case of emergency.</li> <li>• Performs operations related to defective hardware and tools.</li> <li>• Reports the quality of the tests according to the defined tolerance and deviations.</li> <li>• Fills in the information and evaluation forms.</li> <li>• Conducts technical procedures related to the quality assurance.</li> <li>• Fills in the quality reports.</li> <li>• Determines and records the deviations at measuring results.</li> <li>• Reads the basic sketch and technical drawings.</li> <li>• Applies quality control techniques according to the type of the testing operation.</li> <li>• Works in compliance with the meanings of warning and signs.</li> <li>• Works in accordance with the tool, device, hardware or the quality requirements of the system.</li> <li>• Determines the depreciated, end-of-life parts.</li> <li>• Checks the quality of the works at the basis of operation.</li> <li>• Follows the performing of adjustments of measure and control tools systematically.</li> <li>• Places the warning and signs at appropriate positions.</li> </ul>
<p>11UY0020-5/A3</p>	<p>MANDATORY</p>	<p><b>Arranging the Work and Tools</b></p> <ul style="list-style-type: none"> <li>• Has knowledge about the technical schemes related to the hardware structure of the vehicles and engine.</li> <li>• Knows the operations related to determining the specifications of the vehicle of which the maintenance and repair will be performed.</li> <li>• Has knowledge of flammable and inflammable materials at working environment at the level to determine.</li> <li>• Is knowledgeable about keeping working environment and equipment in order.</li> <li>• Knows the legislation on the occupational health and safety and workplace rules.</li> <li>• Knows the occupational health and safety protection and intervention tools.</li> <li>• Has knowledge of risk analysis influencing occupational health and safety at the level to perform.</li> <li>• Knows the protective and preventive maintenance operations.</li> <li>• Has knowledge about procedures related to the evaluation of customer complaints.</li> <li>• Knows his own jurisdiction at overcoming the problems.</li> <li>• Has knowledge of risk analysis.</li> <li>• Has knowledge of basic sketch and technical drawings at the level to examine.</li> <li>• Knows the meanings of warning and signs.</li> <li>• Has knowledge about average durations of operations to be performed.</li> <li>• Applies required procedures in case of emergency.</li> <li>• Performs operations related to defective hardware and tools.</li> <li>• Applies occupational safety rules.</li> <li>• Applies required first aid steps in case of working accident.</li> <li>• Takes precautions related to the occupational health and safety.</li> <li>• Uses personal protective equipments.</li> <li>• Performs required preparation and adjustment operations of tools to be used.</li> <li>• Reads the basic sketch and technical drawings.</li> <li>• Works in compliance with the warning and signs.</li> <li>• Prepares appropriate tools for maintenance repair operations to be performed.</li> <li>• Calculates the approximate cost according to the operations to be performed.</li> <li>• Organizes the preparation operations to be made on the vehicle.</li> <li>• Leaves tool and apparatus left from the vehicle or part in appropriate position.</li> <li>• Controls the operability of safety mechanisms related to the working hardwares.</li> <li>• Controls the operating condition of the tools to be used.</li> <li>• Investigates the forms related to customer complaints and controls the vehicle.</li> </ul>

		<ul style="list-style-type: none"> <li>• Defines the vehicle delivery date according to the approximate operation duration.</li> <li>• Reads the basic sketch and technical drawings.</li> <li>• Places the warning and signs at appropriate positions.</li> <li>• Determines the order of maintenance or repair operations to be performed.</li> <li>• Works according to the protection method to be applied.</li> <li>• Makes work distribution according to the repair operations to be performed.</li> </ul>
11UY0020-5/A4	MANDATORY	<p><b>Final Control and Reporting</b></p> <ul style="list-style-type: none"> <li>• Has knowledge of the appropriate positions to leave the tools and apparatus that are separated from the vehicle and parts after operations at the level to describe.</li> <li>• Knows the operations related to defective hardware and vehicles at the level to explain.</li> <li>• Knows the operations related to the information and evaluation forms.</li> <li>• Knows the protective and preventive maintenance operations.</li> <li>• Has knowledge of measuring and testing techniques.</li> <li>• Has knowledge at the level to distinguish the negativities from the type of depreciation, abrasion and corrosion on the piece.</li> <li>• Knows his own jurisdiction at overcoming the problems.</li> <li>• Has knowledge of risk analysis.</li> <li>• Knows the cleaning supplies and their usage instructions.</li> <li>• Records the damage estimated on the vehicle to the related form.</li> <li>• Performs operations related to defective hardware and tools.</li> <li>• Fills in the information and evaluation forms.</li> <li>• Determines and keeps tracks of spare parts required for repair.</li> <li>• Reads the basic sketch and technical drawings.</li> <li>• Prepares report on performed maintenance and repair operations.</li> <li>• Investigates and evaluates the technical schemes related to the hardware structure of the vehicles and engine.</li> <li>• Controls whether there is physical damage on the vehicle manually.</li> <li>• Determines the depreciated, end-of-life parts.</li> <li>• Performs informing about the general condition of the hardwares in compliance with the procedures.</li> <li>• Determines the risk factors in advance and reduces the risk.</li> <li>• Works according to the protection method to be applied.</li> </ul>
11UY0020-5/A5	MANDATORY	<p><b>Periodical Maintenance</b></p> <ul style="list-style-type: none"> <li>• Has full knowledge of operation related to current and resistance tests.</li> <li>• Knows periodical maintenance operations to be performed on powertrains at the level to describe.</li> <li>• Knows the parts changed routinely at maintenance operations.</li> <li>• Knows periodical maintenance operations of the steering wheel system at the level to describe.</li> <li>• Knows periodical maintenance operations to be performed on electrical hardware at the level to describe.</li> <li>• Knows periodical maintenance operations to be performed on brake system at the level to describe.</li> <li>• Has knowledge about the estimated operating time of the air filters.</li> <li>• Is knowledgeable about standard pressure values required to be produced by hydraulic steering wheel pump.</li> <li>• Knows periodical maintenance operations to be performed on starting and charging systems at the level to describe.</li> <li>• Knows periodical maintenance operations to be performed on engine cooling system at the level to describe.</li> <li>• Knows periodical maintenance operations to be performed on engine at the level to describe.</li> <li>• Knows preliminary operations related to periodical maintenance at the level to describe.</li> <li>• Knows periodical maintenance operations of suspension system at the level to describe.</li> <li>• Knows periodical maintenance operations to be performed on fuel system at the level to describe.</li> <li>• Controls the mechanical parts on ABS brake system.</li> <li>• Repairs the troubleshot faults on powertrains.</li> <li>• Controls the connections of analog/digital displays.</li> <li>• Performs accuracy tests of analog/digital displays.</li> <li>• Controls the conformity of tread depth and air pressures of tires to projected standard values.</li> </ul>

		<ul style="list-style-type: none"> <li>• Tests the ASR and ESP systems according to reference values.</li> <li>• Dismantles, cleans and controls the conformity of sparking plugs to projected standards.</li> <li>• Controls the oil level and leakages of differential gear.</li> <li>• Controls the steering play and makes required adjustments.</li> <li>• Controls the hydraulic oil level of the steering wheel.</li> <li>• Controls the glow plugs, intercooler and turbo charging at diesel vehicles.</li> <li>• Controls the physical conditions of exhaust pipe and silencers.</li> <li>• Controls the brake hydraulic oil level, hydraulic pipe, hose and connections.</li> <li>• Repairs the troubleshot faults on brake system.</li> <li>• Dismantles, cleans and replaces the air filters.</li> <li>• Controls and adjusts the catalytic converter according to reference values.</li> <li>• Controls the sensor, engine, gas and electrical connections of air conditioning and airbag systems.</li> <li>• Repairs the faults troubleshot as a result of controls.</li> <li>• Controls the pressure regulator, gas injector and electrovalves at LPG/CNG vehicles.</li> <li>• Controls the physical condition of cranking motor and strain levels of cranking motor springs.</li> <li>• Performs current and resistance test to starting system and its connections.</li> <li>• Performs periodical maintenance on central locking system, electrical side window and mirrors and parking sensors.</li> <li>• Drains and fills engine oilpan.</li> <li>• Controls the air bag and compressor of pneumatic suspension systems.</li> <li>• Controls the radiator fan and rubber strap and adjusts thermostat.</li> <li>• Performs periodical maintenance operations on regulator (generator regulator).</li> <li>• Controls the wiper motor and adjusts water spraying.</li> <li>• Performs reference periodical maintenance operations on signal systems and electrical networks.</li> <li>• Repairs the troubleshot faults on suspension system.</li> <li>• Uses diagnostic testing devices.</li> <li>• Controls and replaces thermostat.</li> <li>• Repairs the troubleshot faults on cornering (radius) arm.</li> <li>• Controls the oil level and leakages of gearbox.</li> <li>• Dismantles the oil filter from the vehicle and replaces.</li> <li>• Dismantles fuel filter connections.</li> <li>• Controls the accumulator electrolyte levels and oxidations.</li> <li>• Controls the physical condition of shock absorbers and whether there is oil leakage.</li> <li>• Defines the maintenance program appropriate for the kilometer, age of the vehicle and the season.</li> <li>• Defines the parts to be replaced or maintained and repaired according to the customer complaints and demands.</li> <li>• Controls entire parts of the automatic transmission systems.</li> <li>• Controls the physical conditions of wiper shoe.</li> <li>• Controls the coolant pump and entire connected parts.</li> <li>• Controls the physical conditions, damage and abrasions of bow and springs at suspension systems.</li> <li>• Controls the entire system with diagnostic devices.</li> <li>• Controls the physical conditions of change speed gear, gear shafts and synchronizer setup.</li> <li>• Controls the leakage and corrosion controls at fuel tank.</li> </ul>
11UY0020-5/A6	MANDATORY	<p><b>Troubleshooting and Repair</b></p> <ul style="list-style-type: none"> <li>• Has full knowledge of troubleshooting and repair options to be performed on powertrains.</li> <li>• Has full knowledge of troubleshooting and repair operations to be applied to accumulator.</li> <li>• Has full knowledge of troubleshooting and repair operations to be applied to steering wheel system.</li> <li>• Has full knowledge of troubleshooting and repair operations to be applied to electrical hardware.</li> <li>• Has full knowledge of troubleshooting and repair operations to be applied to brake system.</li> <li>• Has full knowledge of troubleshooting and repair operations to be applied to starting and charging systems.</li> <li>• Knows the troubleshooting and maintenance operations to be performed while the engine is on the vehicle at the level to describe.</li> <li>• Has full knowledge of troubleshooting and repair operations to be applied to</li> </ul>

engine cooling systems.

- Knows the troubleshooting and maintenance operations to be applied to fuel system.
- Controls the mechanical parts and repairs the faults on ABS brake system.
- Controls the axle shaft free plays, whether there are damages on axle shafts and shafts.
- Adjusts accumulator electrolyte levels during controls.
- Performs accumulator capacity test.
- Performs fool loading test on alternator.
- Controls the ASR and ESP systems and repairs the faults.
- Controls the resistance values of ignition cable set.
- Makes maximum and minimum level adjustments of torsion bars according to projected reference values.
- Controls the clutch pedal and coupling point and makes required adjustments.
- Dismantles the clutch from the vehicle, controls and adjusts.
- Controls the digital and analog display connections and performs accuracy tests.
- Controls the operation of steering wheel angle sensors in compliance with the projected reference values.
- Controls the steering column, joint and rod connections.
- Controls the steering play and makes required adjustments.
- Controls the hydraulic oil level of the steering wheel.
- Controls and adjusts the glow plugs at diesel vehicles.
- Controls and adjusts the handbrake system.
- Performs troubleshooting and repair on the electrical hardware.
- Maintains the injectors.
- Controls the brake pads, discs and drums.
- Controls the brake hydraulic.
- Performs reference maintenance and control operations of air cooling systems.
- Controls and adjusts carburetors.
- Controls the operation of the hooter housing and steering wheel connection.
- Repairs the faults troubleshot as a result of controls.
- Adjusts the pressure regulator, gas injector and electrovalves at LPG/CNG vehicles.
- Controls the strain levels of cranking motor springs.
- Controls the current consumption level and rotation number of cranking motor (rpm).
- Insulates the connection cables of starting system.
- Controls the corrosion of water channels of the engine block.
- Controls the conformity of engine cooling fluid and freezing point to projected reference values.
- Adjusts the straps on engine at appropriate strain.
- Dismantles the engine from chassis and connections with other entire components.
- Dismantles the engine from the vehicle and mounts it to the vehicle by chain hoist at appropriate positions.
- Dismantles the automatic transmission from the vehicle and mounts it.
- Controls the air bag and compressor of pneumatic suspension systems.
- Controls the radiator fan, fan engine and rubber strap.
- Dismantles the radiator and water delivery pipes and repairs physical damages.
- Controls the rod and tie rods and makes required adjustments.
- Controls the fuses and fuse sockets.
- Controls the wiper motor and adjusts water spraying.
- Brings the cylinders to timing position and performs timing leakage test.
- Measures the pressure values of cylinders.
- Dismantles the spring, dashpot, virage (radius) arm and suspension arms of the suspension system.
- Controls the conformity of suspension altitude sensor to projected reference values.
- Troubleshoots the faults at the engine and related units using diagnostic testing devices.
- Controls and adjusts the thermostat.
- Controls and adjusts the torque convertor.
- Performs vacuum test on inlet manifold with vacuum indicator.
- Dismantles the gear box from the vehicle and demounts according to the instructions.
- Controls the conformity of oil pump and oil pressure to projected reference values.

		<ul style="list-style-type: none"> <li>Measures the pressure values of oil pump.</li> <li>Measures the lengths of the springs and clutch resistances and controls their physical conditions.</li> <li>Controls the general physical condition of accumulator.</li> <li>Controls the physical condition of shock absorbers and whether there is oil leakage.</li> <li>Controls the providing airstream of exhaust and inlet manifold at appropriate amount in compliance to the standards.</li> <li>Controls the physical conditions, wearing rate of camshaft and crankshaft.</li> <li>Performs the urea controls of the cranking motor pinyon and its installation and starter solenoid.</li> <li>Controls the physical conditions, wearing rate of piston, rod and snap rings.</li> <li>Controls the electrical wiring system and their insulation according to color coding.</li> <li>Controls the physical conditions of wiper shoe.</li> <li>Controls the leakage and corrosion controls at fuel tank.</li> </ul>
11UY0020-5/A7	MANDATORY	<p><b>Final Controls</b></p> <ul style="list-style-type: none"> <li>Knows the periodical troubleshooting and maintenance operations to be applied to active and passive safety hardwares.</li> <li>Knows the road testing operations performed for the purpose of troubleshooting.</li> <li>Knows the troubleshooting and maintenance operations to be applied to lightening, signal system and electric circuit.</li> <li>Knows troubleshooting and repair operations to be applied to starting and charging systems at the level to describe.</li> <li>Knows the troubleshooting and maintenance operations to be applied to the circuit of warning system.</li> <li>Has knowledge about required environmental conditions for road test.</li> </ul>

#### 4. Range of occupations accessible to the holder of the certificate <sup>(1)</sup>

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<sup>(1)</sup> If applicable

#### <sup>(1)</sup> Explanatory note

This document is designed to provide additional information about the specified certificate and does not have any legal status in itself. The format of the description is based on the following texts: Council Resolution 93/C 49/01 of 3 December 1992 on the transparency of qualifications, Council Resolution 96/C 224/04 of 15 July 1996 on the transparency of vocational training certificates, and Recommendation 2001/613/EC of the European Parliament and of the Council of 10 July 2001 on mobility within the Community for students, persons undergoing training, volunteers, teachers and trainers.

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#### 5. Official basis of the certificate

<p><b>Name and status of the body awarding the certificate</b></p> <p>Automotive Electromechanic (Level 5) Vocational Qualification Certificate, is awarded by Authorised Certification Bodies authorised by Vocational Qualification Authority.</p> <p>The list of Authorised Bodies available at: <a href="http://www.myk.gov.tr/ybk">http://www.myk.gov.tr/ybk</a></p>	<p><b>Name and status of the national/regional authority providing accreditation/recognition of the certificate</b></p> <p>Vocational Qualification Authority (Mesleki Yeterlilik Kurumu)</p> <p>Ziyabey Caddesi 1420. Sokak No:12 Balgat Çankaya/ANKARA TURKIYE</p> <p><a href="http://www.myk.gov.tr">www.myk.gov.tr</a></p>
<p><b>Level of the certificate (national or international)</b></p> <p>ISCO 08: 7231 and Level 5- Turkish Qualifications Framework</p> <p>Detailed information on Turkish Qualifications Framework available at: <a href="http://www.tyc.gov.tr">http://www.tyc.gov.tr</a></p>	<p><b>Grading scale / Pass requirements</b></p> <p>It is required that the candidate must be successful at the stages of A1,A2,A3,A4,A5,A6,A7 and A8 for obtaining Automotive Electromechanic (Level 5) Vocational Qualification Certificate.</p>
<p><b>Access to next level of education/training</b></p> <p>-</p>	<p><b>International agreements</b></p> <p>-</p>
<p><b>Legal basis</b></p> <p>Vocational Qualification Authority Law No. 5544</p>	

## 6. Officially recognised ways of acquiring the certificate

This document is prepared for candidates applying to authorised certification bodies, in the case of meeting the performance criteria after theoretical and applied assessments are made and each required unit for obtaining the qualification is successfully completed.

The performance criteria and assessment rates may be different for each qualification.

### **Entry requirements**

There is not an entry requirement for this national qualification.

### **Information**

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### **Additional information**

It is an equitable, transparent and confidential system including rules and activities regarding the development and application of technical and vocational education standards and qualifications, and accreditation, authorisation, audit, assessment, certification related to them, based on national and international occupational standards.

The levels of VQA Vocational Qualification Certificates in relation to Turkish Qualifications Framework are defined as a result of comparing the learning outcomes of the related national qualification to TQF level descriptors. TQF level descriptors, defining the minimum learning outcomes required for the qualifications levelled according to TQF, are available at <http://www.tyc.gov.tr/st>. Since TQF is referenced to European Qualifications Framework (EQF), eight TQF levels correspond to eight EQF levels. Level 5 qualifications for which this certificate herein is issued are defined as "Employee exercises management and supervision of work or study activities where there is unpredictable change; reviews and develops performance of self and others."

**More information (including a description of the national qualifications system) available at:**

### **Vocational Qualifications Authority**

[www.myk.gov.tr](http://www.myk.gov.tr)

[www.tyc.gov.tr](http://www.tyc.gov.tr)

### **Europass**

[www.europass.gov.tr](http://www.europass.gov.tr)

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