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MECP Master Certification Exam Contents

All MECP exams require a passing score of 70% or greater IN EACH SECTION of the exam to successfully pass the whole exam. One failed section will result in a failed exam. All MECP exams have a time limit of three hours

MASTER INSTALLATION TECHNICIAN CERTIFICATION – Min. three years of work experience

The MECP Master Installation Technician exam contains 200 questions divide between five sections. Each section contains various questions covering the general range of topics that correspond to the Master study guide chapters. The exam has a full 20% of its 200 questions as experience-based troubleshooting questions. There is an “on screen” calculator provided for any mathematical computation. The MECP Master study guide and exam assume the candidate has read and mastered the content presented in the MECP Advanced guide.

The candidate MUST possess a current MECP Advanced level certification (or be recertifying as an unexpired Master) to qualify for this exam.

Section 1 – Master Level Electronics and Vehicle Electrical Systems (40 Questions)

- 1)** (19.6% of Section 1) -These questions require knowledge and understanding of Ohm's Law, Watt's Law, Kirchhoff's Laws, electrical circuit elements (voltage, current, resistance, coulombs, electrons, etc.) and the math involved to solve a specific problem or determine an unknown value.
- 2)** (29.4% of Section 1) - These questions pertain to physical electronic components such as resistors, capacitors, relays, silicon & Zener diodes, bi-polar transistors, FETs, logic gates, ICs, batteries, fuses, power wire, etc. The section also covers related units of measure such as Ohms, Farads, Henries, CCA, Ah, power handling, etc. that are part of the component itself.
- 3)** (29.4% of Section 1) – These questions require knowledge of learned/applied vehicle electrical system principles is tested. The section can include units of measure such as volts, amperes, watts, ohms and how it applies to the given expectation or outcome such as effects on the vehicle electrical system from aftermarket electronics, functioning alternators, adding batteries, connecting to a data bus, OBD-II diagnostic information, installation of aftermarket electronics in hybrid and electric vehicles, etc.
- 4)** (21.6% of Section 1) - These questions require the ability to read and understand wiring and electronic component schematics (such as AllData, Mitchell, OEM schematics, etc.).

Section 2 – Master Level Installation Knowledge and Technique (40 Questions)

- 5)** (38.1% of Section 2) – These questions pertain to the method in which a component or process is applied in an installation, including specific MECP recommended practices. Examples include the appropriate size/type of wire, properly setting amplifier gains, properly conducting and summarizing a State of Health (SOH) test on the charging system, the correct methods of installing both new and replacement speakers, the recommended practices of connections, wire runs, fusing, etc.
- 6)** (19.0% of Section 2) – These questions directly relate to applications, settings, features and uses of electrical measurement and diagnostic tools such as a DMM, oscilloscope, EMR detector, polarity detector, OBD-II scan tools and more. These questions are about the tools themselves, not the process (which is covered in other objectives).
- 7)** (31.0% of Section 2) – These questions directly relate to shop safety, proper use of safety equipment and power tools and fabrication-related topics including wood, plastics, fiberglass, upholstery and metals. This section also covers specific MECP recommended practices related to workshop safety, power tool use and fabrication process.
- 8)** (11.9% of Section 2) - These questions relate to general knowledge and familiarity of various fasteners, clips, hardware, etc. for equipment mounting and those encountered during removal interior panels with regard to the original integrity of the vehicle and subsequent installation. These questions also cover correct reassembly practices and considerations for factory-installed safety systems such as supplemental restraints and SRS airbags.

Section 3 – Master Level Mobile Audio/Video Systems (40 Questions)

- 9)** (35.4% of Section 3) – These questions deal with acoustic and electrical theory, as well as media source formats as related to mobile audio/video entertainment systems. Some questions may involve basic mathematical computation and knowledge of accepted terminology.
- 10)** (22.9% of Section 3) – These questions cover related units of measure in audio such as Ohms, Watts, ratios in decibels (both dB/SPL and dBv), milliseconds, distances (wavelength, time correction), volume (cubic feet, cubic inches, liters), etc. that relate specifically to mobile audio systems.
- 11)** (41.7% of Section 3) – These questions include all that pertain to the system design, installation and configuration of equipment found in a mobile audio installation such as head units, subwoofers, component speakers, passive crossovers, power amplifiers, portable media adaptors and OEM interface devices and related vehicle circuits. Both knowledge of application and the actual non-product specific installation or configuration knowledge applies to these questions.

Section 4 – Vehicle Security, Convenience, and Communications (40 Questions)

- 12)** (29.4% of Section 4) – These questions identify knowledge of security system components and advanced functionality (including alarm, siren, sensors, input/outputs, programmable features, etc.), including when relays, diodes, resistors, etc. are required.
- 13)** (17.6% of Section 4) – These questions identify knowledge of specific remote starter installation concerns (such as high and low current ignition wiring, vehicle transponder integration methodology, hood pin/brake/neutral safety switch safety, common programmable non-product specific features (tach, voltage, crank time, etc.) and the ability to install/connect these devices, including when relays, diodes, resistors, etc. are required.
- 14)** (27.5% of Section 4) – These questions identify knowledge of testing and verifying the vehicle circuit itself, including high and low current 12 volt circuits, variable voltage/low voltage circuits and data bus circuits as they relate to determining proper security or remote starter installation, including when relays, diodes, resistors, etc. are required.
- 15)** (9.8% of Section 4) – These questions relate to the installation of communication antennas for AM/FM/HD Radio, GPS, Satellite Radio, Telematic Systems and other mobile communication devices as well as any power, ground or other discrete connections necessary to install these devices that send/receive signals, as well as any power, ground or other discrete connections necessary to install these devices that send/receive signals. Includes any related troubleshooting.
- 16)** (5.9% of Section 4) – These questions relate to the installation and configuration or safety devices such as reverse cameras, Bluetooth hands-free kits, telematic devices, LDW/FCW systems and related aftermarket devices/systems. Includes any MECP recommended practices on installation of these devices/systems.
- 17)** (9.8% of Section 4) – These questions relate to a general knowledge of the technology involved (including terminology), such as GPS systems, Bluetooth profiles, wireless network types, satellite and terrestrial broadcasts, etc. as well as compliance regulations such as FMVSS, NHTSA, FCC, etc.

Section 5 – Troubleshooting (40 Questions)

Every technician with many years of experience will agree that their ability to troubleshoot effectively enhances their abilities even while planning to install something for the first time, let alone the unexpected events where something does not function correctly. This section is dedicated entirely to troubleshooting and utilizes many visual images as well as some questions with the same “Technician A, Technician B” type questions found on the ASE A6 electrical exams. If you are a great troubleshooter, you will enjoy this section of the exam.

- 18)** (31.8% of Section 5) – These questions deal with the experience-based diagnosis of installation errors causing issues with the vehicle's electronics and other systems, or

that cause side-effects like noise, OBD-II-related fault codes, battery drain, and/or intermittent electronic systems operations. The diagnosis of such problems includes the use of tools such as the Digital Multimeter (DMM), Hall-Effect current clamp, Oscilloscope, etc and the ability to effectively identify and resolve these vehicle electrical system issues through Identify-Isolate-Eliminate troubleshooting. These questions are specifically intended to be the type of scenarios in which a car dealership may point a finger at the aftermarket electronics when the problem is installation OR vehicle electronic system-related.

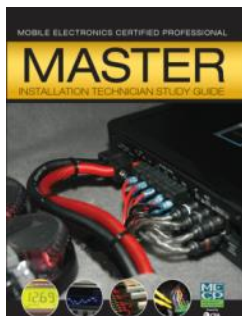
19) (36.4% of Section 5) – These questions are non-product specific, experience-based troubleshooting related to mobile audio and video system installation. All questions relating to the troubleshooting, calibration and de-bugging of an audio system installation (related to integration with, but unrelated to interference/side-effects with other vehicle electrical systems) apply to this sub-section.

20) (27.3% of Section 5) – These questions are non-product specific, experienced-based troubleshooting questions related to security and remote starter installation. All questions relating to the troubleshooting, programming, configuration and de-bugging of a security and/or remote starter system installation (related to integration with, but unrelated to interference/side-effects with other vehicle electrical systems) apply to this sub-section.

21) (4.5% of Section 5) – These questions are non-product specific, experienced-based troubleshooting questions related to in-vehicle information systems including Bluetooth, GPS navigation, driver safety devices/systems, telematics, etc. All questions relating to the troubleshooting, programming, configuration, compatibility and de-bugging of an installation in these areas apply to this sub-section.

Requirements for MECP Master Certification

Achieving MECP Master Certification requires either an **existing Advanced level certification** or (if you are already a Master) it requires that your **current Master certification does not expire before taking the exam to recertify**. It also requires **three years of hands-on industry experience**. Please fill out a [verification of experience form](#) and return to the MECP team.



Study resources for the MECP Master Installation technician exam are:

- [MECP Advanced Installation Technician study guide, Third Edition](#)
- [MECP Master Installation Technician study guide, Second Edition](#)
- [MECP Master Installation Technician practice exam](#)

The MECP Master Installation Technician certification is valid for four years, at which time the individual must recertify BEFORE expiration to maintain MECP Master Installation Technician status.