

# MECP Master Installation Technician Job Description - 2017



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## Position Summary - MECP Master Installation Technician

The MECP Master Installation Technician position presumes the ability to carefully and correctly install and configure aftermarket car electronics products in a wide range of vehicles without process-related supervision. The technician in this job is often placed in a leadership or supervisory role for other technicians. The position also requires direct interface with customers before, during and after the installation, as well as maintaining a clean and functional workshop environment. The MECP Master Installation Technician position assumes a high degree of expertise for diagnosis and repair of installation related faults that may involve aftermarket equipment and/or conflicts with the vehicle's own electrical system components. This position assumes fundamental knowledge and the ability to fabricate application-specific solutions using materials such as wood, plastics, metal and fabrics when commercially available solutions do not exist. Some accountability for facility productivity and management of labor and supplies budgets is also assumed.

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## Full Description - MECP Master Installation Technician

### MECP Master Installation Technician

#### Duties and Responsibilities

All duties and responsibilities listed in the [MECP Advanced Installation Technician Job Description](#) apply to the Master Installation Technician, plus:

- Acquire, determine and/or research solution-based approaches to specific client and vehicle installation needs that preserve the integrity of the vehicle. Recommend and accurately quote these solutions as required.
- Diagnose, repair and resolve installation related problems ranging from product failure or incompatibility to undesirable operational conditions such as heat, excess current draw, noise, RF/EMR interference, intermittent faults or OEM TSBs and recalls.
- Possess a complete understanding of using an RTA, oscilloscope and polarity test instrument to determine OEM audio system signals required for full-range interface to aftermarket devices.
- Fabricate wood, plastic and metal brackets/mounts for aftermarket electronics and speakers as needed. This includes knowledge of the safe and correct steps of preparation and finishing.
- Facilitate a reliable and productive workflow from staff in the installation bay. Demonstrate installation procedures and correctly convey best practices to other technicians when required.
- Assist less experienced team members as needed to troubleshoot/repair installation issues.
- Maintain necessary installation and fabrication supplies to complete installation tasks as scheduled or planned.
- Maintain or oversee the maintenance of shop power and pneumatic tools.

#### Knowledge, Skills, and Ability

All knowledge, skills and abilities listed in the [MECP Advanced Installation Technician Job Description](#) apply to the Master Installation Technician, plus:

- Visual processing ability. Cognitive and analytical thinking ability.
- Knowledge to read and apply OEM-style vehicle wiring schematics, TSB and safety information (such as supplied by AllData, Mitchell, OEM, etc.) for gasoline, diesel, hybrid gas-electric and fully electric vehicles.
- Knowledge of vehicle data-bus and infotainment systems and vehicle applications in which they appear (including CAN-BUS, GM LAN, MOST, D2B, LIN, etc.). Ability to identify inoperable or faulty data-bus and infotainment system operation.
- Knowledge of modern automotive ignition systems (Traditional Key/Tumbler, PTS, Intellikey, Wireless Node) as well as safely interfacing with ignition systems for interrupt and/or remote starting.
- Knowledge of discrete vehicle circuits and triggers including low voltage, normally open, normally closed, rest at state (power, ground, other reference), rest at open, etc., and the ability to measure with a DMM and/or oscilloscope.
- Knowledge to use an oscilloscope for audio, data-bus and sensor (such as tach, VSS, etc.) signal identification. Understand the data displayed (including voltage, frequency and waveform shape) and apply results to accurate initial diagnosis, installation process or troubleshooting.
- Knowledge of how to use a Real Time Analyzer (RTA) for frequency response measurements (sound and electrical signal). Understand the data displayed and apply results to accurate initial diagnosis, installation process or troubleshooting.

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- Knowledge of On-Board Diagnostic (OBD-II) code structures and how to read codes displayed by an OBD-II compliant scan tool. Understand the data displayed to determine if the root cause is installation related.
- Ability to wire/configure multiple SPDT relays for a specific interface task. Ability to wire/configure a bi-polar transistor for low voltage turn-on or triggering. Knowledge of how to wire/configure appropriate values of resistor combinations for a specific voltage divider. Ability to wire/configure multiple silicon diodes to isolate aftermarket components from vehicle circuits or vice-versa.
- In addition to Ohm's Law and Watt's Law and basic math, knowledge of Kirchhoff's Voltage and Current Laws.
- Ability to determine different types of installation related vehicle noise/interference, current draw and charging system problems and systematically identify, isolate and address issue(s).
- Ability to diagnose short and open circuit faults, excess parasitic current drain, low/high/no voltage and state of circuit protection prior to technical support outreach.
- Knowledge to fabricate wood, plastic and metal brackets/mounts for aftermarket electronics and speakers as needed. This includes the safe and correct steps of preparation and finishing.
- Knowledge of table saws, rip fence, cutting blades and general safety around this equipment. Ability to determine material yields for a given series of panel dimensions from a full sheet.
- Knowledge of routers, inverted routers in a table, router bits and related equipment. Knowledge of router processes for circle cutting, duplicating patterns and reducing and enlarging shapes.
- Knowledge of particle separation and fine-dust vacuum systems for wood and plastics used in fabrication workshops.
- Knowledge of equipment and shielding gasses used in Metal Inert Gas (MIG) and Tungsten Inert Gas (TIG) welding styles. Knowledge of related welding safety equipment.
- Knowledge of OSHA related chemical storage requirements and safety procedures for polyester resins and fillers, adhesives, surface finishes and cleaners/solvents used in custom installation procedures.
- Skill in the use of a personal computer, internet browser and various technical support software resources. Ability to execute computer-based firmware updates to a vehicle component via USB, Bluetooth, SD card or other type of method.
- Knowledge of acoustics and vehicle electrical systems as it applies to multi-speaker audio systems to reproduce 20Hz-20KHz range of low distortion, dynamic audio playback. This includes (but not limited to) equalization methods, crossovers and overall mobile audio system design philosophies.
- Knowledge of in-vehicle frequency response, impedance and power handling graphs common in subwoofer enclosure design programs. Ability to select a computer-based subwoofer enclosure design that performs to a given criteria. Ability to match subwoofer with appropriately powered amplification based on RMS power ratings or CEA-2006/CEA-2031 specifications.
- Ability to establish priorities and work without supervision or function as a supervisor to other technicians with minimal oversight from ownership/leadership.

## Credentials and Experience

- Three (3) or more years of professional experience is necessary and is expected by most employers
- Candidate should have extensive and varied experiences with multiple product categories of aftermarket 12-volt products to provide well-rounded professional work experience.
- Candidate should possess a current MECP Master Installation Technician certification and maintain current credentials by recertifying every four (4) years **before** expiration.
- Formal training at an installation related school or program is recommended.
- Continuing Education within the mobile electronics industry, such as industry sponsored seminars and events is recommended.

## Special Requirements

- Must be able to speak/read English (MECP Master level exam and study materials are currently delivered in English only)
- Willing to work weekends, holidays, and shift overtime as required by the employer.
- In most states or provinces, the individual is required to supply his/her own basic hand tools and specialty installation tools.

## Notes about MECP Master Installation Technician Certification

- MECP Master level certification is intended for individuals with a minimum of three (3) years hands-on work experience installing aftermarket 12v vehicle electronics, typically five (5) or more years is common.

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- *Technicians pursuing MECP Master certification for the first time must have a current (non-expired) MECP Advanced Installation Technician certification. Prior work experience of at least three (3) years must be expected and validated by the employer.*
- *These individuals should be able to function in a working environment with extremely minimal supervision of the work related tasks and a daily communication with leadership of the day's work related goals. These individuals are often highly creative problem solvers, so supervision should focus on expectations of an end result and specifics of achieving results relating to company policy.*
- *The MECP Master exam contains five test sections and 200 total questions.*
- *Passing score on the MECP Master level exam is 70% or greater in each section.*
- *The certification is valid for four (4) years. Prior to the expiration, Master certification must be renewed or the requirement of a current Advanced level credential is reinstated for expired Masters wishing to recertify.*
- *MECP certified technicians are granted a certificate with a CEA License number that can be validated at any time by contacting [mecp@mecp.com](mailto:mecp@mecp.com) as a free service to potential employers or clients.*
- *Prospective employers are encouraged to place any candidates with MECP Master certification on the lower end of the suggested experience range of 3-5+ years in a minimally or non-supervised work environment for at least 15 days to ensure the best employee development and retention.*