

COMPETENCY PROFILE:

ELECTRIC VEHICLE PRODUCTION WORKER

ROLE OVERVIEW

Electric vehicle (EV) production workers operate in all stages of electric vehicle manufacturing. The core duties of this occupation are to place raw materials in production machines, assemble the components, package the finished product, and arrange for shipment.

Even though the educational requirements are low, production workers still need specialized skills. They must work quickly, consistently, and accurately to maximize their output and streamline manufacturing.

The stage that an individual production worker works at will vary. However, similar skills, primarily technical, are required to be successful regardless. EV production workers need to work with precision while adhering to production standards and simultaneously striving to enhance their productivity and efficiency without compromising the quality of the product.

ALSO KNOWN AS:

- Assembler
- Assembly Worker
- Electrical Assembler
- Electric Vehicle Assembler
- Motor Vehicle Assembler
- Manufacturing Assembler
- Production Worker
- Battery Producer
- Service Technician

NATIONAL OCCUPATIONAL CLASSIFICATION:

- 94200 – Motor vehicle assemblers, inspectors, and testers

EDUCATION AND EXPERIENCE

- A high school diploma, Grade 12 completion, or GED equivalent is typically needed, providing crucial reading, writing, and mathematical skills for understanding production and safety procedures.
- Additional mechanical and electrical training is beneficial, though not mandatory. Further training in automotive technology, electric vehicle systems, or electronics can be gained through vocational schools, community colleges, or technical programs.
- Employers highly value experience in automotive repair, manufacturing, electrical work, or similar fields, which offers practical knowledge of vehicle systems, especially electrical components.
- EV manufacturers often provide training to acquaint new employees with specific production techniques, tools, safety protocols, quality control, and equipment operation.
- Due to the rapid technological advancements in the EV sector, continuous learning is essential. Workers may need ongoing education, such as training courses, workshops, or certifications, to stay updated with new technologies and methods.

TECHNICAL



Component Assembly

Contributes to assembling and commissioning component assemblies, equipment, and systems to produce EVs and ensure operational functionality.

- Applies appropriate processes and procedures to configure electrical systems and components to ensure systems meet quality assurance and operating specifications.
- Tests electrical components to ensure proper functioning and meet quality assurance requirements.
- Inspects electrical systems and components, flags faults, and performs diagnostics to identify root causes so that they are correctly remedied.
- Services, repairs, adjusts, and tests machines, devices, moving parts, and equipment primarily based on mechanical principles to ensure functionality.

Equipment Maintenance

Identifies operating faults in equipment, processes, and systems and takes steps with supervisors to remedy the observed shortcomings.

- Uses a range of specialized tools and equipment to diagnose faults and conduct testing for electrical equipment maintenance.
- Performs routine and non-routine equipment maintenance to maintain safe and efficient operations.
- Performs preventative maintenance according to established protocols to ensure equipment and systems function efficiently.
- Identifies and reports primary equipment maintenance needs, as identified, to maintenance personnel to ensure faults can be corrected before the equipment becomes in-operational.
- Recommends potential updates and short-and long-term infrastructure and equipment requirements.

Interprets Blueprints and Specifications

Reads and interprets work orders, blueprints, and specifications to ensure the proper assembly of EVs and parts.

- Ensures that electric vehicle components are installed, tested, and maintained according to each component's requirements.
 - Regularly reviews work orders, specifications, diagrams, and drawings to determine assembly instructions and materials needed.
 - Interprets engineering drawings and accurately measures and marks dimensions and reference points on materials to create accurate guides for assembling the materials according to the specifications.
 - Applies functional math skills to calculate and measure materials to ensure they are correctly assembled.
 - Operates various precision measuring tools to ensure they are measured to exacting specifications.
 - Build assemblies to the specified bill of materials to ensure their functionality and operation.
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Machinery and Equipment Operation

Operates equipment using established processes to ensure outcomes are within allowable variances and maximizes safety and efficiency.

- Uses battery testing equipment to detect flaws affecting the battery's performance, measure accumulating charge, or test voltage output.
- Measures the size of components using two—and three-dimensional measuring equipment to ensure precision and check fit.
- Follows appropriate procedures to calibrate and recalibrate instruments and equipment to ensure accurate measurements and quality control.
- Uses heavy machinery and other tools to assemble all the required components quickly and carefully.



Communication

Positively directs outcomes by delivering communication that better understands goals and objectives and gains support for immediate action.

- Actively listens to team members to address concerns and integrate ideas, values, and new information where appropriate.
- Ask questions when assigned unfamiliar tasks to ensure understanding and accuracy.
- Adapt communications depending on the environment, coworkers, or tasks to ensure all parties know their responsibilities.
- Communicates positively with other production workers to maintain a functional and safe work environment.

Attention to Detail

Review completed work by monitoring and checking manufacturing specs, organizing tasks and resources efficiently, or examining all areas involved in achieving an objective.

- Accurately completes documents and report logs to ensure safe and efficient operations.
- Catches and corrects own errors or omissions, where applicable, to ensure efficiency and safety.
- Follows process steps outlined in standard operating procedures when completing routine tasks.
- Correctly interprets specs to integrate all components and ensure a high-quality final product.
- Inspects and test completed components and assemblies, wiring installations, and circuits to remove and replace faulty components and ensure the final product works as intended.
- Identifies operating errors in existing equipment, processes, or systems to notify supervisors of any areas of improvement and generate potential solutions.



Health and Safety Procedures

Abides by and advocates specific workplace safe operating procedures and occupational health and safety requirements within a defined jurisdiction to ensure the health and safety of others.

- Conducts safety inspections of shop environments to detect and correct hazardous conditions.
- Participates in safe workplace training as required to ensure an up-to-date understanding of health and safety best practices.
- Interprets and applies safety codes, policies and practices, and accident-prevention procedures.
- Uses protective equipment and clothing to ensure personal health and safety in the workplace.

Regulatory Compliance

Adheres to specific regulations, codes, and legislation within a defined jurisdiction to ensure the health and safety of others.

- Review electrical engineering plans to ensure adherence to design specifications and compliance with applicable electrical codes and standards.
- Complies with regulatory requirements to prevent using banned materials during operations for the safety of individuals and the environment.
- Complies with specific industry regulations within a defined jurisdiction to maintain a safe work environment.
- Stays current on changes to regulatory policies and legislative changes to ensure project[s] maintain compliance.

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