



## Conveyor Systems Technician Occupational Profile

A conveyor systems technician is responsible for the installation, maintenance, repair, and replacement of conveyor system and sub systems. The technician ensures the safe operation of conveyor equipment including belt and roller driven conveyor systems, PLC's, and similar systems. A conveyor systems technician should have both soft and technical skills. The overall foundational skills are: maintenance of conveyor systems, understanding of the design, development and manufacture of conveyor systems, critical thinking, high mechanical aptitude, basic computer operating systems and programming, problem solving (six sigma.) Three levels of knowledge follow.

Primary level of knowledge:

- Blue print reading and engineering specifications
- Mechanical systems (pumps, vacuum pumps, drive belts, gear reduction)
- Welding
- Electrical ladder logic (480V 3-phase, 110VAC, 24VDC)
- Electrical/hydraulic/pneumatic circuit understanding
- Math and precision measurements
- Basic computer and programming skills
- Safety standards to avoid accidents, human factors, and safety sensors
- Disassemble and reassemble conveyor or peripheral equipment to make repairs such as replacement of defective circuit boards, sensors, bearings, belts, shafting, controllers, encoders, and servomotors.
- Sensor (contact and non-contact) types (micro switches, solid-state switches, proximity, photoelectric, rotary position switches (encoders, synchros, resolvers, potentiometers)).
- Motion control using ladder logic and microprocessors (PLC)
- Excellent written, verbal and listening skills

- Mechanical aptitude (Hands-on)

#### Secondary level of knowledge:

- Automation of processes (sortation, rollers and belts)
- Designing, developing and manufacturing robotics
- Programming of conveyor systems, programming languages (there are 15 common languages)
- Maintenance and preventive maintenance
- Machine-visual sensing (optical methods to provide image acquisition, image digitization, image processing, image analysis, and image interpretation), scanning laser systems, and cameras.
- Analytical and problem solving skills (six sigma)
- Troubleshooting conveyor systems
- Develop conveyor motions to maximize efficiency, safety, and quality
- Maintain service records of conveyor equipment or automated production systems.
- Install, program, or repair programmable logic controllers and special controllers

#### Tertiary level of knowledge

- Lubrication for preventative maintenance
- Align, fit, or assemble component parts using hand tools, power tools, fixtures, templates, or microscopes.
- Test performance of conveyor systems, using instruments such as oscilloscopes, electronic voltmeters, or bridges.
- Develop conveyor path motions to maximize efficiency, safety, and quality.
- Designs for Flexible Automation/Manufacturing, Computer Aided Design (CAD), and Computer-Integrated Manufacturing (CIM) systems
- Artificial intelligence systems (machine learning, expert systems (intelligent computer programs that solve complex problems))

- Signal processing analysis (using controller, sensors, and decision making software)

#### Future applications

- Technological breakthroughs will take place in the future. New possibilities exist in the fields of medical, underwater, surveillance, guard duty, and home applications.



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