



**LIVE YOUR PASSION**

**What does it  
take to become  
a Millwright?**





A millwright is engaged with the erection of machinery, installing dismantling repairing reassembling and moving machinery in factories, power plants, and construction sites. This includes such tasks as installing machinery on foundations or base plates and aligning electric motors or other power sources such as turbines with equipment, which millwrights typically connect with some type of coupling. Millwrights are also known as industrial mechanics or machinists. They read diagrammes, schematic drawings and service manuals to determine work procedures; operate rigging equipment; fit bearings; align gears and shafts; attach motors; and connect couplings and belts to precise tolerances. They repair or replace defective parts and service and repair hydraulic and pneumatic systems. They may also do some tack welding to temporarily hold components in place until it can be completely welded by a specialist welder.

### Skills and Knowledge

Requirements vary, but typically prospective millwrights must demonstrate strong planning, problem-solving and decision-making skills. Millwrights must have a good understanding of fluid mechanics, hydraulics and pneumatics, and all of the components involved in these processes, such as valves, cylinders, pumps and compressors. They need to have a strong mathematical aptitude as they work with a wide array of precision tools, such as vernier calipers, micrometers, dial indicators, levels, gauge blocks, and optical and

laser alignment tooling, based on quantifiable information.

### Training

Millwrights are highly skilled workers. Putting together a machine can take a few days or several weeks. As such, they need to have a good understanding of how the machine works so that they can repair it when it breaks down. During technical instruction, they are taught mathematics, how to read blueprints, welding, electronics, and pneumatics (using air pressure). Typically, training may also include a focus on shaft alignment, rigging, welding, machining, electrical wiring, steel fabrication, conveyor systems, and steam and gas turbine installation. After being trained in a multitude of different fields, novice millwrights enter in an apprenticeship for “on-the-job” training. There they work alongside all available artisans regardless of trade, depending on the institution. Once they meet a structured quota of experience and pass the necessary tests, they are certified.

### Working Conditions


Because of their training and expertise, millwrights are generally chosen to work on tasks associated with flying and setting heavy machinery. When millwrights determine the best place for a machine, they bring the parts to the desired location using forklifts, hoists, winches, cranes, and other equipment. Modern standards of practice for millwrights also require working within precise limits or standards of accuracy and at heights


without fear. Because they work in production facilities and construction sites, minor injuries such as cuts, bruises, and strains are common. Those employed on a contractual basis may spend only a few days or weeks at a single site, and as a result, have variable schedules and may experience downtime between jobs.

## Job Prospects


Once certified, millwrights have the opportunity to qualify as technicians, engineers, planners, foremen and many other routes requiring mainly electrical and mechanical expertise. Apprentices are usually paid a percentage of the average millwright wage, and this percentage increases with experience. Many millwrights choose to enter the private sector to work on a contractual basis, especially in the mining and manufacturing sectors. Fields wherein millwrights may operate include low-, medium- and high-voltage electrical faultfinding and installations; Programmable Logic Controller (PLC) installations and maintenance; fitting installation and maintenance of most mechanical, hydraulic and pneumatic systems; and steelworks. Millwrights are also in demand as teachers for vocational and technical programmes.

You too can live your passion and become a Millwright. If you are fit and strong, have strong communication and decisionmaking skills, you are a good candidate.


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- MULTI-SKILLED ARTISANS
  - ERECTION OF MACHINERY
  - INSTALLATION, DISMANTLING + RE-ASSEMBLY
  - ELECTRICAL INSTALLATIONS

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- MATHEMATICAL APPTITUDE
  - PLANNING SKILLS
  - PROBLEM-SOLVING SKILLS
  - BLUEPRINT INTERPRETATION
  - PHYSICAL FITNESS

I've seen so many young people missing out on golden opportunities in this field, just because someone told them that it is not an option worth pursuing.



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- PHYSICAL STAMINA + STRENGTH
  - LONG VARIED HOURS
  - HIGH RISK ENVIRONMENT
  - COURAGEOUS

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- MULTITUDE OF ARTISAN FIELDS
  - 'ON-THE-JOB' TRAINING
  - STRUCTURED QUOTA OF EXPERIENCE
  - SAFETY TRAINING

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- HIGHLY EMPLOYABLE
  - PLC MAINTENANCE
  - PRIVATE CONTRACTORS
  - VOCATIONAL TEACHERS