

## Construction Millwrights and Industrial Mechanics



Construction Millwrights and Industrial Mechanics are skilled trades people that perform hands-on maintenance and repair tasks within manufacturing environments. The tasks they perform require extensive knowledge ranging from design to electrical and mechanical know-how. Specialized in ensuring proper function of equipment and machinery, they thrive in roles where there is a need to apply troubleshooting, fine motor skills, and continued monitoring and maintenance.

### Skills

Skills are developed through training and experience, and are the practical proficiencies someone possesses. The following are top key skills millwrights and mechanics employ in their work:

1. Repairing
2. Operation Monitoring
3. Equipment Maintenance
4. Troubleshooting
5. Operation & Control

### Tasks

Tasks are the assigned duties that an occupational group performs in their daily work. The following are the tasks millwrights and mechanics most regularly encounter:

1. Maintain work equipment or machinery.
2. Adjust equipment to ensure optimal performance.
3. Repair green energy equipment or systems.
4. Assemble mechanical components or machine parts.
5. Troubleshoot equipment or systems operation problems.

### Technical Knowledge

Technical Knowledge is the understanding of theory and utility of modern tools in a work environment. The following tools are used by millwrights and mechanics regularly:

1. Computer-aided design and manufacturing software
2. Analytic or scientific software
3. Process mapping and design software
4. Object or component oriented development software
5. Office suite software

### Abilities

Abilities refer to the innate faculties that allow workers to carry out tasks and activities. The following are the top abilities that millwrights and mechanics possess:

1. Manual Dexterity
2. Problem Sensitivity
3. Control Precision
4. Arm-Hand Steadiness
5. Visualization

# Skills Transferability Matrix

FOCAL's Skills Transferability Matrices analyze the transferability of an occupation across a multitude of other occupations on the basis of similarities in **skills, technical knowledge, tasks,** and **abilities** as outlined by the O\*Net database. It aims to show workers how to leverage their skill set in changing occupations, planning a career path, and transitioning to other industries. It also assists policy makers and educators address changing skill sets and areas of opportunity for workforce entrants in developing industries. Employers can also use this tool in reskilling or upskilling workers to circumvent skills shortages, and reduce the hiring and training challenges.

Construction Millwrights and Industrial Mechanics					
Occupations	Skills	Technical Knowledge	Tasks	Abilities	Total
Heavy-duty equipment mechanics	91%	100%	31%	92%	79%
Electrical power line and cable workers	88%	94%	39%	88%	77%
Automotive service technicians, truck and bus mechanics and mechanical repairers	90%	94%	32%	90%	76%
Appliance servicers and repairers	89%	88%	41%	88%	76%
Electronic service technicians (household and business equipment)	88%	88%	46%	82%	76%
Telecommunications installation and repair workers	90%	94%	31%	87%	76%
Electrical mechanics	89%	94%	30%	89%	75%
Industrial electricians	91%	81%	33%	86%	73%
Motorcycle, all-terrain vehicle and other related mechanics	87%	69%	45%	89%	72%
Boilermakers	88%	75%	2%	91%	64%
Material handlers	72%	94%	3%	82%	63%
Foundry workers	72%	88%	7%	82%	62%
Contractors and supervisors, mechanic trades	71%	94%	9%	75%	62%
Supervisors, other mechanical and metal products manufacturing	65%	81%	2%	69%	55%
Supervisors, other products manufacturing and assembly	65%	63%	2%	69%	50%

After scanning over 2,600 skills, technical competencies, tasks, and abilities of each of the 500 occupations as defined by the National Occupational Classification (NOC) system, a skills transferability matrix for construction millwrights and industrial mechanics is produced. In the matrix above, a high score is highlighted in green and indicates the high transferability potential of an attribute of an occupation with that of millwrights and mechanics. Lower or no transferability areas are marked in red. Millwrights and mechanics share high attribute transferability with roles in utilities and mechanical service work, including automobile mechanics and telecommunications repairers, suggesting mobility between manufacturing and other sectors. High transferability is observed with industrial electricians, and slightly lower transferability with boilermakers, suggesting that millwrights and mechanics may succeed in other skilled trade roles due to their diverse work experiences. Regular use of fine motor skills and abilities could lead to construction millwrights and industrial mechanics performing well in production roles, such a material handling and foundry work. The technical knowledge of millwrights and mechanics is applicable to supervisory roles.

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