



TORO Analysis of Industrial Machinery Mechanics to Maintenance Workers, Machinery

INPUT SECTION:

Transfer	Title	O* NET	Filters		
From Title:	Industrial Machinery Mechanics	49-9041.00	Abilities:	Importance Level: 50	Weight: 1
To Title:	Maintenance Workers, Machinery	49-9043.00	Skills:	Importance Level: 69	Weight: 1
Labor Market Area:	Maine Statewide		Knowledge:	Importance Level: 69	Weight: 1

OUTPUT SECTION:

Grand TORQ:



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Ability TORQ		Skills TORQ		Knowledge TORQ	
Level	92	Level	95	Level	95

Gaps To Narrow if Possible				Upgrade These Skills				Knowledge to Add			
Ability	Level	Gap	Impt	Skill	Level	Gap	Impt	Knowledge	Level	Gap	Impt
Oral Expression	46	2	59	Reading Comprehension	62	9	75	Mechanical	87	6	91
Inductive Reasoning	44	2	56	Active Listening	58	6	71				
				Installation	78	5	74				
				Repairing	77	3	88				
				Equipment Maintenance	75	2	86				
				Troubleshooting	72	2	81				

LEVEL and IMPT (IMPORTANCE) refer to the Target Maintenance Workers, Machinery. GAP refers to level difference between Industrial Machinery Mechanics and Maintenance Workers, Machinery.

ASK ANALYSIS

Ability Level Comparison - Abilities with importance scores over 50

Description	Industrial Machinery Mechanics	Maintenance Workers, Machinery	Importance
Problem Sensitivity	44	42	68
Arm-Hand Steadiness	48	46	65
Oral Comprehension	50	50	59
Oral Expression	44	46	59
Visualization	51	46	59
Manual Dexterity	53	44	59
Near Vision	50	46	59
Deductive Reasoning	46	44	56



Inductive Reasoning	42	44	56
Information Ordering	53	42	56
Finger Dexterity	51	44	56
Written Comprehension	48	42	53
Selective Attention	50	44	53
Control Precision	55	48	53
Multilimb Coordination	51	41	50
Reaction Time	59	42	50
Static Strength	50	42	50

Skill Level Comparison - Abilities with importance scores over 69

Description	Industrial Machinery Mechanics	Maintenance Workers, Machinery	Importance
Repairing	74	77	88
Equipment Maintenance	73	75	86
Troubleshooting	70	72	81
Reading Comprehension	53	62	75
Equipment Selection	67	61	74
Installation	73	78	74
Active Listening	52	58	71

Knowledge Level Comparison - Knowledge with importance scores over 69

Description	Industrial Machinery Mechanics	Maintenance Workers, Machinery	Importance
Mechanical	81	87	91

Experience & Education Comparison

Related Work Experience Comparison			Required Education Level Comparison		
Description	Industrial Machinery Mechanics	Maintenance Workers, Machinery	Description	Industrial Machinery Mechanics	Maintenance Workers, Machinery
10+ years	7%	0%	Doctoral	0%	0%
8-10 years	8%	3%	Professional Degree	0%	0%
6-8 years	8%	0%	Post-Masters Cert	0%	0%
4-6 years	14%	10%	Master's Degree	0%	0%
2-4 years	17%	10%	Post-Bachelor Cert	0%	0%
1-2 years	15%	48%	Bachelors	7%	2%
6-12 months	3%	5%	AA or Equiv	1%	0%
3-6 months	13%	10%	Some College	11%	6%
1-3 months	0%	0%	Post-Secondary Certificate	36%	25%
0-1 month	0%	0%	High School Diploma or GED	24%	64%
None	11%	9%	No HSD or GED	17%	0%



Industrial Machinery Mechanics	Maintenance Workers, Machinery
Most Common Educational/Training Requirement:	
Long-term on-the-job training	Short-term on-the-job training
Job Zone Comparison	
3 - Job Zone Three: Medium Preparation Needed	1 - Job Zone One: Little or No Preparation Needed
<p>Previous work-related skill, knowledge, or experience is required for these occupations. For example, an electrician must have completed three or four years of apprenticeship or several years of vocational training, and often must have passed a licensing exam, in order to perform the job.</p> <p>Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree. Some may require a bachelor's degree.</p> <p>Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers.</p>	<p>No previous work-related skill, knowledge, or experience is needed for these occupations. For example, a person can become a cashier even if he/she has never worked before.</p> <p>These occupations may require a high school diploma or GED certificate. Some may require a formal training course to obtain a license.</p> <p>Employees in these occupations need anywhere from a few days to a few months of training. Usually, an experienced worker could show you how to do the job.</p>

Tasks

Industrial Machinery Mechanics	Maintenance Workers, Machinery
Core Tasks	Core Tasks
Generalized Work Activities:	Generalized Work Activities:
<ul style="list-style-type: none"> Repairing and Maintaining Mechanical Equipment - Servicing, repairing, adjusting, and testing machines, devices, moving parts, and equipment that operate primarily on the basis of mechanical (not electronic) principles. Inspecting Equipment, Structures, or Material - Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects. Handling and Moving Objects - Using hands and arms in handling, installing, positioning, and moving materials, and manipulating things. Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources. Performing General Physical Activities - Performing physical activities that require considerable use of your arms and legs and moving your whole body, such as climbing, lifting, balancing, walking, stooping, and handling of materials. 	<ul style="list-style-type: none"> Repairing and Maintaining Mechanical Equipment - Servicing, repairing, adjusting, and testing machines, devices, moving parts, and equipment that operate primarily on the basis of mechanical (not electronic) principles. Controlling Machines and Processes - Using either control mechanisms or direct physical activity to operate machines or processes (not including computers or vehicles). Handling and Moving Objects - Using hands and arms in handling, installing, positioning, and moving materials, and manipulating things. Inspecting Equipment, Structures, or Material - Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects. Performing General Physical Activities - Performing physical activities that require considerable use of your arms and legs and moving your whole body, such as climbing, lifting, balancing, walking, stooping, and handling of materials.
Specific Tasks	Specific Tasks
Occupation Specific Tasks:	Occupation Specific Tasks:
<ul style="list-style-type: none"> Analyze test results, machine error messages, and information obtained from operators in order to diagnose equipment problems. Clean, lubricate, and adjust parts, equipment, and machinery. Cut and weld metal to repair broken metal parts, fabricate new parts, and assemble new equipment. Demonstrate equipment functions and features to machine operators. 	<ul style="list-style-type: none"> Clean machines and machine parts, using cleaning solvents, cloths, air guns, hoses, vacuums, or other equipment. Collaborate with other workers to repair or move machines, machine parts, or equipment. Collect and discard worn machine parts and other refuse in order to maintain machinery and work areas.



- Disassemble machinery and equipment to remove parts and make repairs.
- Enter codes and instructions to program computer-controlled machinery.
- Examine parts for defects such as breakage and excessive wear.
- Observe and test the operation of machinery and equipment in order to diagnose malfunctions, using voltmeters and other testing devices.
- Operate newly repaired machinery and equipment to verify the adequacy of repairs.
- Reassemble equipment after completion of inspections, testing, or repairs.
- Record parts and materials used, and order or requisition new parts and materials as necessary.
- Record repairs and maintenance performed.
- Repair and maintain the operating condition of industrial production and processing machinery and equipment.
- Repair and replace broken or malfunctioning components of machinery and equipment.
- Study blueprints and manufacturers' manuals to determine correct installation and operation of machinery.

Detailed Tasks

Detailed Work Activities:

- adhere to safety procedures
- adjust or set mechanical controls or components
- adjust production equipment/machinery setup
- align or adjust clearances of mechanical components or parts
- analyze operation of malfunctioning electrical or electronic equipment
- apply cleaning solvents
- assemble and install pipe sections, fittings, or plumbing fixtures
- assemble, dismantle, or reassemble equipment or machinery
- bend tubing or conduit
- braze metal parts or components together
- calibrate or adjust electronic equipment or instruments to specification
- conduct performance testing
- conduct tests to locate mechanical system malfunction
- control HVAC equipment
- coordinate production maintenance activities
- cut, bend, or thread pipe for gas, air, hydraulic, or water lines
- determine installation, service, or repair

- Dismantle machines and remove parts for repair, using hand tools, chain falls, jacks, cranes, or hoists.
- Inspect or test damaged machine parts, and mark defective areas or advise supervisors of repair needs.
- Install, replace, or change machine parts and attachments, according to production specifications.
- Inventory and requisition machine parts, equipment, and other supplies so that stock can be maintained and replenished.
- Lubricate or apply adhesives or other materials to machines, machine parts, or other equipment, according to specified procedures.
- Measure, mix, prepare, and test chemical solutions used to clean or repair machinery and equipment.
- Read work orders and specifications to determine machines and equipment requiring repair or maintenance.
- Reassemble machines after the completion of repair or maintenance work.
- Record production, repair, and machine maintenance information.
- Remove hardened material from machines or machine parts, using abrasives, power and hand tools, jackhammers, sledgehammers, or other equipment.
- Replace or repair metal, wood, leather, glass, or other lining in machines, or in equipment compartments or containers.
- Replace, empty, or replenish machine and equipment containers such as gas tanks or boxes.
- Set up and operate machines, and adjust controls to regulate operations.
- Start machines and observe mechanical operation to determine efficiency and to detect problems.
- Transport machine parts, tools, equipment, and other material between work areas and storage, using cranes, hoists, or dollies.

Detailed Tasks

Detailed Work Activities:

- adhere to safety procedures
- adjust or set mechanical controls or components
- apply cleaning solvents
- assist mechanic, or extractive or construction trades craft worker
- clean equipment or machinery
- clean rooms or work areas
- construct, erect, or repair wooden frameworks or structures
- cut, shape, fit, or join wood or other construction materials
- erect scaffold



needed

- develop maintenance schedules
- diagnose mechanical problems in machinery or equipment
- fabricate, assemble, or disassemble manufactured products by hand
- identify base metals for welding
- identify properties of metals for repair or fabrication activities
- inspect machinery or equipment to determine adjustments or repairs needed
- install electrical conduit or tubing
- install electrical fixtures or components
- install electronic equipment, components, or systems
- install electronic power, communication, control, or security equipment or systems
- install equipment or attachments on machinery or related structures
- install industrial machinery or related heavy equipment
- install or replace meters, regulators, or related measuring or control devices
- install water or sewer treatment plant equipment
- install/connect electrical equipment to power circuit
- lubricate machinery, equipment, or parts
- maintain or repair industrial or related equipment/machinery
- maintain or repair small engines
- maintain or repair work tools or equipment
- maintain repair records
- maintain specialized manufacturing or commercial equipment or machinery
- maintain welding machines or equipment
- move or fit heavy objects
- observe or listen to machinery or equipment operation to detect malfunctions
- obtain information from individuals
- operate crane in construction, manufacturing or repair setting
- operate hoist, winch, or hydraulic boom
- operate pneumatic test equipment
- order or purchase supplies, materials, or equipment
- overhaul industrial or construction machinery or equipment
- overhaul power-generating equipment or machinery
- perform detailed welding techniques
- perform hydraulic plumbing
- perform safety inspections in industrial, manufacturing or repair setting
- position, align, or level machines, equipment, or structures
- fabricate sheet metal parts or items
- fabricate, assemble, or disassemble manufactured products by hand
- inspect machinery or equipment to determine adjustments or repairs needed
- install equipment or attachments on machinery or related structures
- inventory stock to ensure adequate supplies
- load or unload material or workpiece into machinery
- lubricate machinery, equipment, or parts
- maintain or repair industrial or related equipment/machinery
- maintain repair records
- mix paint, ingredients, or chemicals, according to specifications
- move materials or goods between work areas
- move or fit heavy objects
- observe or listen to machinery or equipment operation to detect malfunctions
- operate crane in construction, manufacturing or repair setting
- operate hoist, winch, or hydraulic boom
- operate sandblasting equipment
- operate vacuum or air hose
- perform safety inspections in industrial, manufacturing or repair setting
- read specifications
- read work order, instructions, formulas, or processing charts
- repair or replace malfunctioning or worn mechanical components
- repair sheet metal products
- requisition stock, materials, supplies or equipment
- signal directions or warnings to coworkers
- test materials or solutions
- test mechanical products or equipment
- understand service or repair manuals
- understand technical operating, service or repair manuals
- use acetylene welding/cutting torch
- use basic carpentry techniques
- use control or regulating devices to adjust or maintain industrial machinery
- use hand or power tools
- use hand or power woodworking tools
- use high voltage apparatus
- use knowledge of metric system
- use measuring devices in repairing industrial or heavy equipment
- use pneumatic tools
- use precision measuring devices in



- program computer numerical controlled machines
- read blueprints
- read schematics
- read specifications
- read technical drawings
- read work order, instructions, formulas, or processing charts
- repair computer controlled manufacturing systems
- repair or adjust measuring or control devices
- repair or replace electrical wiring, circuits, fixtures, or equipment
- repair or replace malfunctioning or worn mechanical components
- repair plastics manufacturing equipment
- repair sheet metal products
- replace electronic components
- requisition stock, materials, supplies or equipment
- set up and operate variety of machine tools
- set up computer numerical control machines
- solder electrical or electronic connections or components
- solder metal parts or components together
- test electrical/electronic wiring, equipment, systems or fixtures
- test electronic or electrical circuit connections
- test mechanical products or equipment
- understand service or repair manuals
- understand technical operating, service or repair manuals
- use 2-cycle engine technology
- use acetylene welding/cutting torch
- use arc welding equipment
- use basic plumbing techniques
- use braze-welding equipment
- use combination welding procedures
- use control or regulating devices to adjust or maintain industrial machinery
- use electrical or electronic test devices or equipment
- use electronic calibration devices
- use hand or power tools
- use high voltage apparatus
- use knowledge of metric system
- use knowledge of welding filler rod types
- use machine tools in installation, maintenance, or repair
- use pipe fitting equipment
- use pneumatic tools
- use pollution control techniques

mechanical repair work

- use pressure gauges
- work as a team member

Technology - Examples

Data base user interface and query software

- Database software

Spreadsheet software

- Spreadsheet software

Word processing software

- Word processing software

Tools - Examples

- Abrasive wheels

- Abrasive rubbing stones

- Adjustable widemouth pliers

- Adjustable wrenches

- Bandsaws

- Oxyacetylene torches

- Dial calipers

- Compressed air guns

- Deburring tools

- Dollies

- Drill bits

- Ear plugs

- Forklifts

- Dial indicators

- Grease guns

- Lapping equipment

- Hammers

- Hard hats

- Chain falls

- Hold down clamps

- Jacks

- Ladders

- Lathes

- Levels



- use precision measuring devices in mechanical repair work
- use pressure gauges
- use robotics systems technology
- use soldering equipment
- use tube bending equipment
- verify levelness or verticality, using level or plumb bob
- weld together metal parts, components, or structures

Technology - Examples

Computer aided design CAD software

- Computer aided design CAD software

Computer aided manufacturing CAM software

- Extranet Machine Tools Suite

Data base user interface and query software

- Maintenance planning and control software

Facilities management software

- Maintenance management software

Industrial control software

- BIT Corp ProMACS PLC
- KEYENCE PLC Ladder Logic

Office suite software

- Microsoft Office

Spreadsheet software

- Microsoft Excel

Word processing software

- Microsoft Word

Tools - Examples

- Pliers
- Wrenches
- Compressors
- Alignment tools
- Ammeters
- Stud drivers
- Bandsaws
- Vises
- Block and tackle equipment
- Acetylene torches

- Lockout hasps

- Metal cutters

- Metal inert gas MIG welders

- Micrometers

- Milling machines

- Personal computers

- Plumb bobs

- Jackhammers

- Buffing machines

- Power drills

- Grinding machines

- Bench saws

- Punches

- Reamers

- Respirators

- Rivet guns

- Rulers

- Safety glasses

- Safety belts

- Hacksaws

- Scaffolding

- Screwdrivers

- Shears

- Rigging equipment

- Socket wrench sets

- Soldering guns

- Steel rules

- Sheet metal folders

- Dies

- Pipe threaders

- Tungsten inert gas TIG welding equipment

- Industrial vacuums



- Boring machines
- Broaching machines
- Calipers
- Reciprocating machinery combustion analyzers
- Airhammer chisels
- Combination wrenches
- Cutting dies
- Desktop computers
- Equipment rollers
- Side cutting pliers
- Angled feeler gauges
- Files
- Flow meters
- Forklifts
- Brazing equipment
- Shaping machines
- Grease guns
- Lapping wheels
- Brass hammers
- Hand pumps
- Gauges
- Allen wrenches
- Chain falls
- Impact wrenches
- Bearing heating ovens
- Jacks
- Ladders
- Laser measuring equipment
- Computer printers
- Engine lathes
- Transits
- Level gauges

- Arc welders
- Welding tips
- Spot-welding equipment
- Workshop cranes
- Brakes



- Channel lock pliers
- Magnetic retrievers
- Alignment scopes
- Rubber mallets
- Metal inert gas MIG welders
- Punches
- Programmable logic controllers PLC
- Inside micrometers
- Cutting machines
- Milling machines
- Multimeters
- Needlenose pliers
- Oscilloscopes
- Personal computers
- Facing machines
- Pipe wrenches
- Screw pitch gauges
- Plasma cutters
- Staging platforms
- Plumb bobs
- Airpowered descaling drills
- Pneumatic hammers
- Airpowered descaling turbines
- Jigs
- Power drills
- Cylindrical grinders
- Sanders
- Power saws
- Steam cleaning equipment
- Pressure gauges
- Hydrostatic testers
- Optical measuring equipment



- Pinchbars
- Hydraulic pullers
- Putty knives
- Ratchet sets
- Reamers
- Burnishing wheels
- Riveting machines
- Rulers
- Welding lenses
- Handsaws
- Scissor lifts
- Scrapers
- Phillips head screwdrivers
- Rigging
- Socket sets
- Soldering irons
- Cylindrical procedures squares
- Straightedges
- Bearing bridge gauges
- Vacuum lifts
- Strobe tachometers
- Tape measures
- Taps
- Space gauges
- Pipe threaders
- Aviation snips
- Emery wheels
- Tungsten inert gas TIG welding equipment
- Radial drills
- Utility knives
- Vacuum gauges
- Vibration analyzers



- Voltmeters
- Steel wedges
- Arc welders
- Welding shields
- Robotic teach pendants
- Tip dressing machines
- Electric welding equipment
- Electric rotary wire brushes
- Wire cutters
- Cranes
- Drill presses

Labor Market Comparison

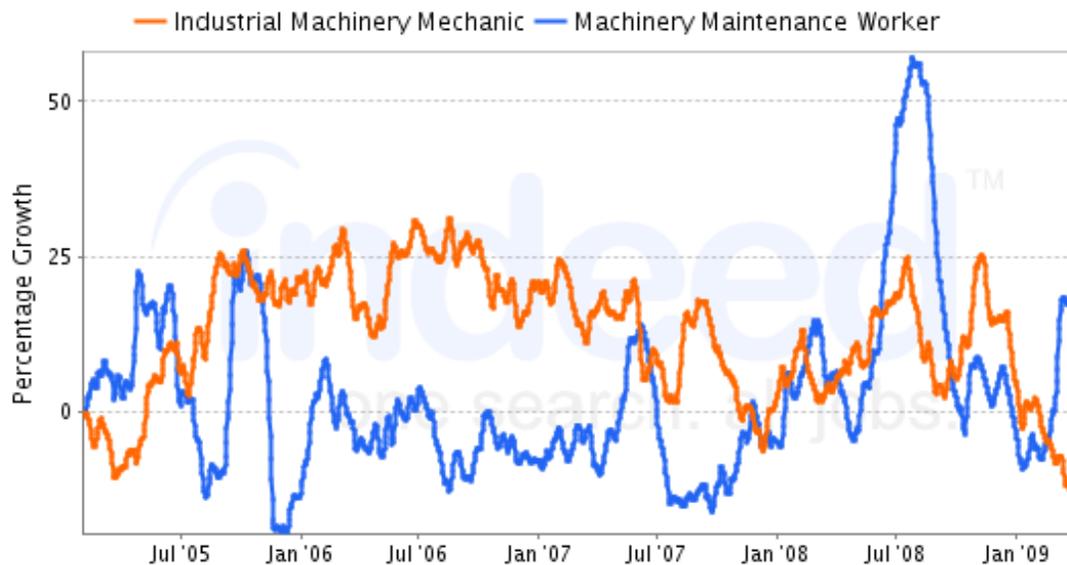
Description	Industrial Machinery Mechanics	Maintenance Workers, Machinery	Difference
Median Wage	\$ 39,370	\$ 34,100	\$(5,270)
10th Percentile Wage	\$ 28,150	\$ 18,630	\$(9,520)
25th Percentile Wage	N/A	N/A	N/A
75th Percentile Wage	\$ 48,040	\$ 38,610	\$(9,430)
90th Percentile Wage	\$ 56,740	\$ 43,370	\$(13,370)
Mean Wage	\$ 40,830	\$ 32,410	\$(8,420)
Total Employment - 2007	990	290	-700
Employment Base - 2006	1,021	337	-684
Projected Employment - 2016	1,096	278	-818
Projected Job Growth - 2006-2016	7.4 %	-17.5 %	-24.8 %
Projected Annual Openings - 2006-2016	25	5	-20

National Job Posting Trends

Trend for Industrial Machinery Mechanics

Trend for
Maintenance
Workers,
Machinery

Job Trends from Indeed.com



Data from [Indeed](http://Indeed.com)

Recommended Programs

Industrial Machinery Main. and Repairer

Industrial Mechanics and Maintenance Technology. A program that prepares individuals to apply technical knowledge and skills to repair and maintain industrial machinery and equipment such as cranes, pumps, engines and motors, pneumatic tools, conveyor systems, production machinery, marine deck machinery, and steam propulsion, refinery, and pipeline-distribution systems.

Institution	Address	City	URL
Kennebec Valley Community College	92 Western Ave	Fairfield	www.kvcc.me.edu

Industrial Equipment Main. and Repairers, Other

Heavy/Industrial Equipment Maintenance Technologies, Other. Any instructional program in industrial equipment maintenance and repair not listed above.

No schools available for the program

Maine Statewide Promotion Opportunities for Industrial Machinery Mechanics

O*NET Code	Title	Grand TORQ	Job Zone	Employment	Median Wage	Difference	Growth	Annual Job Openings
49-9041.00	Industrial Machinery Mechanics	100	3	990	\$39,370.00	\$0.00	7%	25
49-9044.00	Millwrights	92	3	830	\$41,280.00	\$1,910.00	-12%	11
51-4111.00	Tool and Die Makers	88	3	160	\$51,670.00	\$12,300.00	-11%	2
51-4041.00	Machinists	87	3	1,860	\$41,560.00	\$2,190.00	4%	35



49-2094.00	Electrical and Electronics Repairers, Commercial and Industrial Equipment	87	3	440	\$49,450.00	\$10,080.00	-19%	15
51-4011.00	Computer-Controlled Machine Tool Operators, Metal and Plastic	86	2	720	\$40,490.00	\$1,120.00	6%	12
51-4192.00	Lay-Out Workers, Metal and Plastic	86	2	180	\$43,870.00	\$4,500.00	-24%	3
49-9012.00	Control and Valve Installers and Repairers, Except Mechanical Door	85	3	170	\$47,860.00	\$8,490.00	-9%	3
47-4021.00	Elevator Installers and Repairers	85	4	0	\$50,960.00	\$11,590.00	0%	0
49-2095.00	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	85	5	20	\$60,790.00	\$21,420.00	5%	1
49-3011.00	Aircraft Mechanics and Service Technicians	84	3	210	\$44,280.00	\$4,910.00	-2%	2
53-6051.07	Transportation Vehicle, Equipment and Systems Inspectors, Except Aviation	83	3	60	\$42,890.00	\$3,520.00	5%	2
47-2111.00	Electricians	82	3	2,910	\$43,650.00	\$4,280.00	1%	89
49-9051.00	Electrical Power-Line Installers and Repairers	81	3	280	\$47,750.00	\$8,380.00	9%	12
17-3023.01	Electronics Engineering Technicians	81	3	430	\$45,180.00	\$5,810.00	-20%	9

Top Industries for Maintenance Workers, Machinery

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Local government, excluding education and hospitals	939300	6.40%	5,397	6,063	12.34%
Motor vehicle parts manufacturing	336300	3.89%	3,278	2,610	-20.39%
Plastics product manufacturing	326100	3.16%	2,666	2,826	6.00%
Animal production; primary job	112000	2.73%	2,304	2,043	-11.34%
Animal slaughtering and processing	311600	2.47%	2,079	2,373	14.13%



Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance	811300	2.36%	1,988	2,104	5.82%
Support activities for air transportation	488100	2.25%	1,897	2,292	20.80%
Coal mining	212100	1.76%	1,483	1,498	0.99%
Pharmaceutical and medicine manufacturing	325400	1.71%	1,439	1,814	26.03%
Colleges, universities, and professional schools, public and private	611300	1.70%	1,437	1,608	11.87%
Fabric mills	313200	1.53%	1,286	908	-29.38%
Commercial and industrial machinery and equipment rental and leasing	532400	1.52%	1,281	1,565	22.19%
Pulp, paper, and paperboard mills	322100	1.49%	1,256	871	-30.64%
Electric power generation, transmission and distribution	221100	1.47%	1,241	1,141	-8.03%
Converted paper product manufacturing	322200	1.39%	1,168	980	-16.08%

Top Industries for Industrial Machinery Mechanics

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance	811300	7.91%	20,611	25,083	21.70%
Motor vehicle parts manufacturing	336300	3.70%	9,644	8,829	-8.44%
Plastics product manufacturing	326100	3.58%	9,327	11,369	21.90%
Self-employed workers, primary job	000601	2.49%	6,497	7,960	22.52%
Electric power generation, transmission and distribution	221100	2.40%	6,265	6,626	5.77%
Converted paper product manufacturing	322200	2.30%	5,998	5,789	-3.49%
Pulp, paper, and paperboard mills	322100	2.25%	5,865	4,678	-20.23%
Animal slaughtering and processing	311600	2.25%	5,866	7,700	31.25%
Local government, excluding education and hospitals	939300	2.03%	5,296	6,841	29.19%
Fruit and vegetable preserving and specialty food manufacturing	311400	2.02%	5,259	5,484	4.27%
Basic chemical manufacturing	325100	1.87%	4,881	4,734	-3.02%
Federal government, excluding postal service	919999	1.81%	4,706	5,116	8.71%
Petroleum and coal products manufacturing	324100	1.46%	3,797	3,296	-13.18%
Semiconductor and other electronic component manufacturing	334400	1.39%	3,633	3,652	0.52%
Bakeries and tortilla manufacturing	311800	1.36%	3,536	4,154	17.47%