



TORO Analysis of Team Assemblers to Coil Winders, Tapers, and Finishers

INPUT SECTION:

| Transfer | Title | O*NET | Filters | | |
|--------------------|-------------------------------------|------------|------------|----------------------|-----------|
| From Title: | Team Assemblers | 51-2092.00 | Abilities: | Importance Level: 50 | Weight: 1 |
| To Title: | Coil Winders, Tapers, and Finishers | 51-2021.00 | Skills: | Importance Level: 69 | Weight: 1 |
| Labor Market Area: | Maine Statewide | | Knowledge: | Importance Level: 69 | Weight: 1 |

OUTPUT SECTION:

Grand TORQ:



89

| Ability TORQ | | Skills TORQ | | Knowledge TORQ | |
|--------------|----|-------------|----|----------------|----|
| Level | 95 | Level | 84 | Level | 88 |

| Gaps To Narrow if Possible | | | | Upgrade These Skills | | | | Knowledge to Add | | | |
|----------------------------|-------|-----|------|-----------------------------|-------|-----|------|---------------------------------|-------|-----|------|
| Ability | Level | Gap | Impt | Skill | Level | Gap | Impt | Knowledge | Level | Gap | Impt |
| Arm-Hand Steadiness | 44 | 5 | 68 | No Skills Upgrade Required! | | | | No Knowledge Upgrades Required! | | | |
| Finger Dexterity | 44 | 2 | 62 | | | | | | | | |
| Manual Dexterity | 42 | 1 | 59 | | | | | | | | |

LEVEL and IMPT (IMPORTANCE) refer to the Target Coil Winders, Tapers, and Finishers. GAP refers to level difference between Team Assemblers and Coil Winders, Tapers, and Finishers.

ASK ANALYSIS

Ability Level Comparison - Abilities with importance scores over 50

| Description | Team Assemblers | Coil Winders, Tapers, and Finishers | Importance |
|---------------------|-----------------|-------------------------------------|------------|
| Arm-Hand Steadiness | 39 | 44 | 68 |
| Finger Dexterity | 42 | 44 | 62 |
| Manual Dexterity | 41 | 42 | 59 |
| Control Precision | 44 | 44 | 59 |
| Near Vision | 44 | 44 | 59 |
| Oral Comprehension | 51 | 42 | 53 |
| Oral Expression | 48 | 44 | 50 |

Skill Level Comparison - Abilities with importance scores over 69

| Description | Team Assemblers | Coil Winders, Tapers, and Finishers | Importance |
|---|-----------------|-------------------------------------|------------|
| Knowledge Level Comparison - Knowledge with importance scores over 69 | | | |
| Description | Team Assemblers | Coil Winders, Tapers, and Finishers | Importance |

Experience & Education Comparison

| Related Work Experience Comparison | | | | Required Education Level Comparison | | | |
|------------------------------------|-----------------|-------------------------------------|-----|-------------------------------------|-----------------|-------------------------------------|-----|
| Description | Team Assemblers | Coil Winders, Tapers, and Finishers | | Description | Team Assemblers | Coil Winders, Tapers, and Finishers | |
| 10+ years | | 0% | 0% | Doctoral | | 0% | 0% |
| 8-10 years | | 0% | 0% | Professional Degree | | 0% | 0% |
| 6-8 years | | 0% | 0% | Post-Masters Cert | | 0% | 0% |
| 4-6 years | | 0% | 0% | Master's Degree | | 0% | 0% |
| 2-4 years | | 4% | 2% | Post-Bachelor Cert | | 0% | 0% |
| 1-2 years | | 6% | 18% | Bachelors | | 0% | 0% |
| 6-12 months | | 10% | 28% | AA or Equiv | | 0% | 0% |
| 3-6 months | | 2% | 5% | Some College | | 1% | 0% |
| 1-3 months | | 6% | 1% | Post-Secondary Certificate | | 11% | 2% |
| 0-1 month | | 17% | 5% | High School Diploma or GED | | 63% | 51% |
| None | | 50% | 38% | No HSD or GED | | 22% | 46% |

Team Assemblers Coil Winders, Tapers, and Finishers

Most Common Educational/Training Requirement:

Moderate-term on-the-job training Short-term on-the-job training

Job Zone Comparison

| | |
|---|---|
| <p>2 - Job Zone Two: Some Preparation Needed</p> <p>Some previous work-related skill, knowledge, or experience may be helpful in these occupations, but usually is not needed. For example, a teller might benefit from experience working directly with the public, but an inexperienced person could still learn to be a teller with little difficulty.</p> <p>These occupations usually require a high school diploma and may require some vocational training or job-related course work. In some cases, an associate's or bachelor's degree could be needed.</p> <p>Employees in these occupations need anywhere from a few months to one year of working with experienced employees.</p> | <p>2 - Job Zone Two: Some Preparation Needed</p> <p>Some previous work-related skill, knowledge, or experience may be helpful in these occupations, but usually is not needed. For example, a teller might benefit from experience working directly with the public, but an inexperienced person could still learn to be a teller with little difficulty.</p> <p>These occupations usually require a high school diploma and may require some vocational training or job-related course work. In some cases, an associate's or bachelor's degree could be needed.</p> <p>Employees in these occupations need anywhere from a few months to one year of working with experienced employees.</p> |
|---|---|

Tasks

| Team Assemblers | Coil Winders, Tapers, and Finishers |
|-----------------|-------------------------------------|
| Core Tasks | Core Tasks |



Generalized Work Activities:

- Handling and Moving Objects - Using hands and arms in handling, installing, positioning, and moving materials, and manipulating things.
- Controlling Machines and Processes - Using either control mechanisms or direct physical activity to operate machines or processes (not including computers or vehicles).
- Communicating with Supervisors, Peers, or Subordinates - Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.
- Inspecting Equipment, Structures, or Material - Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects.
- Identifying Objects, Actions, and Events - Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances or events.

Specific Tasks

Occupation Specific Tasks:

- Determine work assignments and procedures.
- Operate heavy equipment such as forklifts.
- Provide assistance in the production of wiring assemblies.
- Rotate through all the tasks required in a particular production process.
- Shovel and sweep work areas.

Detailed Tasks

Detailed Work Activities:

- confer with engineering, technical or manufacturing personnel
- direct and coordinate activities of workers or staff
- examine products or work to verify conformance to specifications
- fabricate, assemble, or disassemble manufactured products by hand
- perform safety inspections in manufacturing or industrial setting
- read work order, instructions, formulas, or processing charts
- use computers to enter, access or retrieve data
- use hand or power tools
- work as a team member

Technology - Examples

Computer aided design CAD software

Generalized Work Activities:

- 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.
- Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources.
- Training and Teaching Others - Identifying the educational needs of others, developing formal educational or training programs or classes, and teaching or instructing others.
- Communicating with Supervisors, Peers, or Subordinates - Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.

Specific Tasks

Occupation Specific Tasks:

- Apply solutions or paints to wired electrical components, using hand tools; and bake components.
- Attach, alter, and trim materials such as wire, insulation, and coils, using hand tools.
- Cut, strip, and bend wire leads at ends of coils, using pliers and wire scrapers.
- Disassemble and assemble motors, and repair and maintain electrical components and machinery parts, using hand tools.
- Examine and test wired electrical components such as motors, armatures, and stators, using measuring devices; and record test results.
- Line slots with sheet insulation, and insert coils into slots.
- Operate or tend wire-coiling machines to wind wire coils used in electrical components such as resistors and transformers, and in electrical equipment and instruments such as bobbins and generators.
- Record production and operational data on specified forms.
- Review work orders and specifications to determine materials needed and types of parts to be processed.
- Select and load materials such as workpieces, objects, and machine parts onto equipment used in coiling processes.
- Stop machines to remove completed components, using hand tools.

Detailed Tasks



- Computer aided design CAD software

Data base user interface and query software

- Data entry software

Office suite software

- Microsoft Office

Spreadsheet software

- Microsoft Excel

- Spreadsheet software

Word processing software

- Microsoft Word

- Word processing software

Tools - Examples

- Adjustable wrenches

- Bearing installation tools

- Bench vises

- Welding torches

- Dial calipers

- Metal chisels

- Dividers

- Burring tools

- Desktop computers

- Protective ear muffs

- Protective ear plugs

- Engine repair stands

- Fiber reinforced polymer FRP rollers

- Feeler gauges

- Hand files

- Torque angle meters

- Forklifts

- Arc welding equipment

- Dial indicators

- Vacuum bags

- Grinding machines

- Material guiding jigs

Detailed Work Activities:

- examine products or work to verify conformance to specifications
- load or unload material or workpiece into machinery
- maintain or repair industrial or related equipment/machinery
- maintain production or work records
- monitor production machinery/equipment operation to detect problems
- monitor the quantity of assembly output
- operate coil winding machines
- perform repetitive tasks in assembly setting
- read blueprints
- read technical drawings
- read work order, instructions, formulas, or processing charts
- repair or replace electrical wiring, circuits, fixtures, or equipment
- solder electrical or electronic connections or components
- solder metal parts or components together
- test manufactured products or materials
- understand service or repair manuals
- understand technical operating, service or repair manuals
- use electronic calibration devices
- use hand or power tools
- use oscilloscopes in electronics repair
- use precision tools in electronics repair
- use soldering equipment
- use voltmeter, ammeter, or ohmmeter

Technology - Examples



- Claw hammers
- Hand clamps
- Heat guns
- Pin protrusion gauges
- Allen wrenches
- Power hoists
- Ring squeezers
- Hydraulic press frames
- Power wrenches
- Heating furnaces
- Threaded insert tools
- Hand jacks
- Heat lamps
- Ladders
- Lathes
- Transits
- Locking pliers
- End milling machines
- Plastic mallets
- Metal inert gas MIG welders
- Electrochemical etching devices
- Micrometers
- Computerized numerical control CNC metal-cutting machines
- Milling machines
- Needlenose pliers
- Nut drivers
- Paint application brushes
- Paint application rollers
- High-volume low-pressure HVLP spray guns
- Curing ovens
- Assembly robots
- Rotating mandrels

- Tube cutters
- Flame cutters
- Pneumatic drills
- First assembly jigs
- Power chippers
- Cordless drills
- Bench grinders
- Edge planers
- Belt sanders
- Cutoff saws
- Power drivers
- Anti-vibration gloves
- Protractors
- Pry bars
- Gear pullers
- Center punches
- Ratchets
- Line reamers
- Chopper guns
- Respirators
- Snap ring pliers
- Alligator jaw compression riveters
- Steel rules
- Safety glasses
- Scaffolding
- Straight screwdrivers
- Scribes
- Adhesive application robots
- Beverly shears
- Socket wrenches
- Soldering guns
- Spanner wrenches



- Case wrenches
- Timing lights
- Layout squares
- Squeegees
- Bearing staking tools
- Measuring tapes
- Taps
- Drafting templates
- Tensiometers
- Fuel control wrenches
- Beading tools
- Crimping tools
- Lapping tools
- Tungsten inert gas TIG welding equipment
- Turnbuckles
- Radial drills
- Ultrasonic inspection equipment
- Trimming knives
- Vacuum pumps
- Wedges
- Tack welding equipment
- Welding hoods
- Welding robots
- Spot welding equipment
- Cable cutters
- Jib cranes
- Brakes

Labor Market Comparison

| Description | Team Assemblers | Coil Winders, Tapers, and Finishers | Difference |
|----------------------|-----------------|-------------------------------------|------------|
| Median Wage | \$ 23,730 | \$ 31,910 | \$ 8,180 |
| 10th Percentile Wage | \$ 18,550 | \$ 18,350 | \$(200) |

| | | | |
|---------------------------------------|-----------|-----------|----------|
| 25th Percentile Wage | N/A | N/A | N/A |
| 75th Percentile Wage | \$ 28,380 | \$ 34,740 | \$ 6,360 |
| 90th Percentile Wage | \$ 32,810 | \$ 36,440 | \$ 3,630 |
| Mean Wage | \$ 25,040 | \$ 29,130 | \$ 4,090 |
| Total Employment - 2007 | 3,850 | 90 | -3,760 |
| Employment Base - 2006 | 3,958 | 77 | -3,881 |
| Projected Employment - 2016 | 3,691 | 36 | -3,655 |
| Projected Job Growth - 2006-2016 | -6.7 % | -53.2 % | -46.5 % |
| Projected Annual Openings - 2006-2016 | 82 | 1 | -81 |

National Job Posting Trends

Trend for Team Assemblers

Trend for Coil Winders, Tapers, and Finishers

Job Trends from Indeed.com

— Team Assembler — Coil Winder Taper



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

Recommended Programs

Industrial Electronics Installer and Repairer

Industrial Electronics Technology/Technician. A program that prepares individuals to apply technical knowledge and skills to assemble, install, operate, maintain, and repair electrical/electronic equipment used in industry and manufacturing. Includes instruction in installing, maintaining and testing various types of equipment.

No schools available for the program

Maine Statewide Promotion Opportunities for Team Assemblers

| O* NET Code | Title | Grand TORQ | Job Zone | Employment | Median Wage | Difference | Growth | Annual Job Openings |
|-------------|---|------------|----------|------------|-------------|-------------|--------|---------------------|
| 51-2092.00 | Team Assemblers | 100 | 2 | 3,850 | \$23,730.00 | \$0.00 | -7% | 82 |
| 51-2021.00 | Coil Winders, Tapers, and Finishers | 89 | 2 | 90 | \$31,910.00 | \$8,180.00 | -53% | 1 |
| 51-4121.07 | Solderers and Brazers | 89 | 2 | 1,610 | \$38,030.00 | \$14,300.00 | 7% | 49 |
| 51-9061.00 | Inspectors, Testers, Sorters, Samplers, and Weighers | 87 | 2 | 1,700 | \$29,700.00 | \$5,970.00 | -14% | 26 |
| 51-2031.00 | Engine and Other Machine Assemblers | 87 | 3 | 20 | \$29,010.00 | \$5,280.00 | -45% | 1 |
| 51-9196.00 | Paper Goods Machine Setters, Operators, and Tenders | 87 | 2 | 910 | \$38,230.00 | \$14,500.00 | -26% | 23 |
| 51-7041.00 | Sawing Machine Setters, Operators, and Tenders, Wood | 87 | 2 | 700 | \$24,790.00 | \$1,060.00 | -8% | 15 |
| 53-7063.00 | Machine Feeders and Offbearers | 86 | 1 | 480 | \$26,820.00 | \$3,090.00 | -22% | 9 |
| 51-4121.06 | Welders, Cutters, and Welder Fitters | 86 | 2 | 1,610 | \$38,030.00 | \$14,300.00 | 7% | 49 |
| 51-9032.00 | Cutting and Slicing Machine Setters, Operators, and Tenders | 86 | 2 | 710 | \$31,350.00 | \$7,620.00 | -23% | 12 |
| 51-2023.00 | Electromechanical Equipment Assemblers | 85 | 3 | 90 | \$26,430.00 | \$2,700.00 | -20% | 2 |
| 51-4022.00 | Forging Machine Setters, Operators, and Tenders, Metal and Plastic | 85 | 2 | 20 | \$28,330.00 | \$4,600.00 | -18% | 1 |
| 51-9195.07 | Molding and Casting Workers | 85 | 2 | 0 | \$26,980.00 | \$3,250.00 | 7% | 20 |
| 51-4032.00 | Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic | 84 | 2 | 100 | \$33,030.00 | \$9,300.00 | -22% | 2 |
| 51-4122.00 | Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders | 84 | 2 | 120 | \$36,960.00 | \$13,230.00 | 2% | 3 |

Top Industries for Coil Winders, Tapers, and Finishers



| Industry | NAICS | % in Industry | Employment | Projected Employment | % Change |
|---|--------|---------------|------------|----------------------|----------|
| Electrical equipment manufacturing | 335300 | 33.68% | 7,692 | 5,229 | -32.03% |
| Semiconductor and other electronic component manufacturing | 334400 | 22.01% | 5,025 | 3,514 | -30.07% |
| Nonferrous metal (except aluminum) production and processing | 331400 | 6.62% | 1,512 | 846 | -44.04% |
| Other electrical equipment and component manufacturing | 335900 | 5.64% | 1,289 | 955 | -25.87% |
| Motor vehicle parts manufacturing | 336300 | 4.97% | 1,136 | 723 | -36.31% |
| Navigational, measuring, electromedical, and control instruments manufacturing | 334500 | 4.51% | 1,030 | 789 | -23.41% |
| Spring and wire product manufacturing | 332600 | 2.32% | 529 | 313 | -40.78% |
| Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance | 811300 | 2.16% | 494 | 418 | -15.34% |
| Employment services | 561300 | 2.08% | 475 | 481 | 1.25% |
| Alumina and aluminum production and processing | 331300 | 1.53% | 348 | 194 | -44.32% |
| Communications equipment manufacturing | 334200 | 1.34% | 306 | 247 | -19.36% |
| Household appliance manufacturing | 335200 | 1.16% | 265 | 161 | -39.46% |
| Electric lighting equipment manufacturing | 335100 | 1.00% | 227 | 136 | -40.21% |
| Steel product manufacturing from purchased steel | 331200 | 0.72% | 164 | 116 | -29.20% |
| Engine, turbine, and power transmission equipment manufacturing | 333600 | 0.35% | 80 | 54 | -32.85% |

Top Industries for Team Assemblers

| Industry | NAICS | % in Industry | Employment | Projected Employment | % Change |
|--|--------|---------------|------------|----------------------|----------|
| Employment services | 561300 | 15.68% | 199,847 | 252,932 | 26.56% |
| Motor vehicle parts manufacturing | 336300 | 7.79% | 99,321 | 80,278 | -19.17% |
| Motor vehicle manufacturing | 336100 | 4.50% | 57,395 | 57,191 | -0.35% |
| Other wood product manufacturing | 321900 | 3.65% | 46,477 | 43,797 | -5.77% |
| Motor vehicle body and trailer manufacturing | 336200 | 3.47% | 44,237 | 44,350 | 0.25% |
| Plastics product manufacturing | 326100 | 3.40% | 43,379 | 45,983 | 6.00% |
| Architectural and structural metals manufacturing | 332300 | 2.80% | 35,620 | 38,043 | 6.80% |
| Medical equipment and supplies manufacturing | 339100 | 2.66% | 33,860 | 34,635 | 2.29% |
| Other fabricated metal product manufacturing | 332900 | 2.47% | 31,442 | 27,859 | -11.39% |
| Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing | 333400 | 2.41% | 30,715 | 28,255 | -8.01% |
| Other general purpose machinery manufacturing | 333900 | 2.36% | 30,035 | 27,113 | -9.73% |



| | | | | | |
|--|--------|-------|--------|--------|---------|
| Navigational, measuring, electromedical, and control instruments manufacturing | 334500 | 1.84% | 23,417 | 22,419 | -4.26% |
| Agriculture, construction, and mining machinery manufacturing | 333100 | 1.79% | 22,809 | 21,297 | -6.63% |
| Household appliance manufacturing | 335200 | 1.65% | 21,088 | 15,957 | -24.33% |
| Semiconductor and other electronic component manufacturing | 334400 | 1.65% | 21,011 | 18,365 | -12.59% |