



STATE OF NEW YORK
DEPARTMENT OF LABOR

APPENDIX A

SCREW MACHINE SET UP AND OPERATOR
(MULTIPLE SPINDLE)
D.O.T. CODE 604.280.014

WORK PROCESSES

Approximate Hours

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| I. | <u>First Phase – At Machine</u> | 1,000 |
| A. | Familiarization with machine – explanation and demonstration of principles, mechanisms, controls. | |
| | 1. Shop safety | |
| | 2. Housekeeping including shop cleanliness, handling of parts, cleaning out machines, chip disposal, etc. | |
| | 3. Stocking machines | |
| | 4. Machine lubrication | |
| | 5. Basic blueprint reading | |
| | 6. Inspection of parts | |
| | 7. Begin basic training on tool sharpening using pedestal surface grinders | |
| | 8. Learn screw machine nomenclature | |
| | 9. Become familiar with the various types of cutting tools and tool holders used in machining metals | |
| II. | <u>Second Phase – At Machine</u> | 1,000 |
| A. | Learn responsibility of the operator to maintain maximum production of good parts, constantly checking work against blueprint, keeping machine stocked up. | |
| | 1. Continue prior instruction and practice | |
| | 2. Under supervision, change feed fingers and adjust tension on various styles of feed fingers | |
| | 3. Under supervision, change collets and adjust tension or collets | |
| | 4. Learn what each tool does on the job | |
| | 5. Make minor adjustments when directed | |
| | 6. As directed remove tools from machine for sharpening or replacement | |
| | 7. Under supervision sharpen tools and reset in machine | |

- III. Third Phase – At Machine 1,000
 - A. Intermediate machine operation
 - 1. Continue prior instruction and practice
 - 2. More instruction and practice in sharpening such tools as forms, shave, cut-off, and box tools
 - 3. Actively assist lead operator in removal, sharpening and resetting of various tools used
 - 4. Instruction and practice in use of drill and tap grinding machines
 - 5. Learn to adjust brake, locating lever, starting clutch, high speed clutch
 - 6. Change roll clutch as needed
 - 7. Change spindle speed and feed gears
 - 8. Begin to recognize and analyze problems and make corrections on own

- IV. Fourth Phase – At Machine 1,000
 - A. Intermediate Operation and Analyzing Minor Job Problems
 - 1. Continue prior instruction and practice
 - 2. Operate and maintain simple jobs on own
 - 3. Sharpen tools or change tools and reset as required
 - 4. Remove jobs from machines and check off against layout
 - 5. On new jobs prepare machine for set-up man by changing collets, feeders, cams and stocking up machine
 - 6. Cross check parts made by other operators
 - 7. Assist lead man in operation and maintenance of more difficult jobs
 - 8. Under supervision begin to service and make adjustments on such attachments as thread rollers, thread cutting die heads, threading clutches, rotary slotters, cross-drilling and cross-tapping attachments.

- V. Fifth Phase – At Machine 1,000
 - A. Basic Trouble Shoot and Set-up
 - 1. Continue prior instruction and practice
 - 2. Learn to trouble shoot work spindles and burring spindles; determine causes of runout; remove old and install new chuck levers and extensions; change inner spindle; eliminate and play
 - 3. Under direction begin to service and adjust attachments such as fly-cutters, straddle milling, end milling, index milling, revolving drill spindles
 - 4. Service cross-slides and tool arms

Apprenticeship work processes are applicable only to training curricula for apprentices in approved programs. Apprenticeship work processes have no impact on classification determinations under Article 8 or 9 of the Labor Law. For guidance regarding classification for purposes of Article 8 or 9 of the Labor Law, please refer to <http://www.labor.state.ny.us/workerprotection/publicwork/PDFs/Article8FAQS.pdf>.

APPENDIX B

SCREW MACHINE SET-UP AND OPERATOR
(MULTIPLE SPINDLE)

RELATED INSTRUCTION

Safety

- Fundamentals
- Personal Safety
- Fire Protection
- Shop Safety
- Material Safety
- Safe Trade Practice

Industrial and Labor Relations

- History and Background
- Types of Organization
- Economics
- Social Security
- Workmen's Compensation
- Current Laws and Practices

Blueprint Reading, Drawing, and Sketching

- Fundamentals of Blueprint Reading and Sketching
- Elementary Machine Blueprint Reading and Sketching
- Advanced Blueprint Reading and Sketching
- Machine and Die Design
- Tool, Jig and Fixture Design

Mathamatics

- Fundamentals
- Elementary Applications to the Trade
- Advanced Applications to the Trade
- Precision Measurement
- Using Handbooks, Tables, Calculators, etc.
- Estimating
- Metrics

Trade Theory

- Tools, Machines and Equipment
- Care, Maintenance and Operation
- Terminology
- Materials of the Industry
- Technology of Jobs, Occupations and Processe
- Layout and Production Methods

Screw Machine Set Up and Operator (Multiple Spindle) Related Instruction – continued

Trade Science

- Mechanics as Applied to the Trade
- Principles of Electricity as Applied to the Trade
- Coolants and Lubricants
- Cutting Tools
- Abrasives,
- Tool, Die, Jig and Fixture Design
- Heat treatments
- Metallurgy as Applied to the Trade
- Welding
- Other Related Courses as Needed

First Aid (10 hours per year)

Sexual Harassment Prevention Training – minimum 3 hours

144 Hours of Related Instruction is Required for Each Apprentice for Each Year through Four Years, 576 Hours total.

Screw Machine Set Up and Operator (Multiple Spindle) Related Instruction – continued

New York State Education Department