



APPENDIX A

MAINTENANCE MECHANIC (AUTOMATIC EQUIPMENT)

D.O.T. CODE 638.281-014

O*NET CODE 49-9041.00

As Revised for MACNY, The Manufacturers Association

This training outline is the current standard for Work Processes and Related Instruction. Changes in technology, regulations, and safety & health issues may result in the need for additional on-the-job or classroom learning.

WORK PROCESSES

| | <u>Approximate Hours</u> |
|---|--------------------------|
| A. <u>Preliminary Machine Familiarization and Workplace Health and Safety</u> | 600 |
| 1. Adjusting and familiarization with machines | |
| 2. Proper use and operation of tools, equipment, and fixtures | |
| 3. Familiarity with shop operations, procedures, maintenance schedules | |
| 4. Safety Compliance | |
| 5. Lock-Out/Tag-Out | |
| 6. Handling Hazardous Materials (if applicable) | |
| 7. NEC Safety Regulations | |
| B. <u>Basic Maintenance</u> | 1000 |
| 1. Oiling, greasing and lubricating machinery | |
| 2. Cleaning machines and other equipment | |
| 3. Performing basic diagnostic tests and checking performance | |
| 4. Testing damaged machine parts | |
| 5. Detecting minor problems | |
| 6. Disassembling and assembling machinery/ | |

| | | |
|----|--|------|
| | equipment | |
| | 7. Temperature monitoring (if applicable) | |
| C. | <u>Preventive and Predictive Maintenance</u> | 1000 |
| | 1. Maintaining peak operating condition of industrial machinery/equipment | |
| | 2. Learning problems and repairs to be made to specific machines | |
| | 3. Performing preventive maintenance schedules | |
| | 4. Keeping appropriate records (including computerized records) | |
| D. | <u>Machine Shop</u> | 250 |
| | 1. Working safely with machine tools | |
| | 2. Operating machine tools such as: drill, lathe, mill and grinder to make replacement parts for production machines/equipment | |
| E. | <u>Troubleshooting</u> | 3000 |
| | 1. Diagnosing major problems in machinery | |
| | 2. Analyzing results | |
| | 3. Repairing or replacing broken parts | |
| | 4. Inspecting, repairing, testing | |
| | 5. Reassembling | |
| F. | <u>Welding and Fabrication</u> | 250 |
| | 1. Following all safety procedures and policies | |
| | 2. Accurately reading blueprints, sketches, diagrams, technical manuals | |
| | 3. Welding in connection with the trade | |
| G. | <u>Rigging and Installing</u> | 250 |
| | 1. Inspecting, repairing, operating cranes and cables | |
| | 2. Installing machines/equipment | |
| | 3. Aligning machines/equipment | |
| H. | <u>Electrical (optional*)</u> | 1150 |
| | 1. Reading schematics | |
| | 2. Installing electrical devices | |

3. Identifying problems in electrical systems and controls
4. Troubleshooting AC and DC systems
5. Using computerized diagnostic systems

I. Miscellaneous (Fluid Systems and Associated Piping) 500

1. Understand basic operations of fluid power systems
2. Understand basic operations of hydraulic systems and pumps
3. Understand basic operations of pneumatic systems and Compressors
4. Understand basic operations of steam-powered systems

TOTAL HOURS 8000

***If optional Work Processes are not selected, the hours should be devoted to further mastery of the required Work Processes.**

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

MAINTENANCE MECHANIC (AUTOMATIC EQUIPEMENT)

RELATED INSTRUCTION

Safety and Health

- General Workplace Safety
- Proper Use of Personal Protective Equipment (PPE)
- Fall Protection
- Ladder Safety
- Proper Lifting Techniques
- Right-To-Know/Safety Data Sheets (SDS)
- Annual Hazard Material Communication Training
- Respirator Training, including Fit Test (if applicable)
- Fire Extinguisher Training (if applicable)
- Equipment Safe Operating Practices
- Confined Space Training (if applicable)
- Safely Working around Machines
- Welding Safety
- First Aid – minimum 6.5 hours every 3 years

Blueprints

- Fundamentals of Blueprint Reading
- Machine Blueprint Reading
- Advanced Blueprint Reading
- Reading Schematics (if applicable)
- Fundamentals of Electronics and Computer Programming (if applicable)

Mathematics

- Fundamentals
- Elementary Applications to the Trade
- Advanced Applications to the Trade
- Using Technical Manuals and Procedures
- Precision Measurement

Trade Theory and Science

- Materials of the Trade
- Tools, Machines and Equipment
- Care, Maintenance and Operation
- Terminology
- Technology of Jobs, Operations and Processes
- Layout and Production Methods

Cutting Tools and Abrasives
Tool, Die, Jig and Fixture Design
Metallurgy
Electrical Controls and Basic Electronics (optional)
Electric Circuits and Programmable Logic Controllers (PLCs)
Welding (certification as required)
Brazing and Soldering

Other Workplace Skills

Communication Skills
Team Work Skills
Logic and Reasoning Skills (Critical Thinking)
Active Listening Skills
Industrial and Labor Relations
Sexual Harassment Prevention Training – minimum 3 hours

Other Related Courses as Necessary

A minimum of 144 hours of Related Instruction is required for each apprentice for each year.

