

ATMW-1320: INTRODUCTION TO MILLWRIGHTING

Cuyahoga Community College

Viewing: ATMW-1320 : Introduction to Millwrighting

Board of Trustees:

2007-05-24

Academic Term:

Fall 2025

Subject Code

ATMW - Appld Ind Tech - Millwrighting

Course Number:

1320

Title:

Introduction to Millwrighting

Catalog Description:

Study of basic millwrighting concepts. Topics include hand and precision tool recognition and use, drilling and tapping, belt drive installation and application, and chain drive installation and application.

Credit Hour(s):

2

Lecture Hour(s):

2

Requisites

Prerequisite and Corequisite

Acceptance to Millwrighting Technology apprenticeship program, and ATCT-1301 Introduction to Carpentry or concurrent enrollment; or departmental approval.

Outcomes

Course Outcome(s):

Work safely, effectively, and efficiently on a job site where millwrighting activities occur.

Objective(s):

1. Identify and use general hand tools.
2. Identify and use precision measurement tools.
3. Install and align belt drive equipment.
4. Install conveyor.
5. Install chain drives to correspond with compatible horse power.
6. Layout, drill, and tap steel components.
7. Troubleshoot operation of belt and chain drives.
8. Differentiate use of high speed and low speed chain drives.
9. Differentiate use of high horse power and low horse power.

Methods of Evaluation:

1. Quizzes
2. Exams
3. Classroom participation
4. Demonstration of assigned projects

Course Content Outline:

1. Concepts
 - a. Hand tools: adjustable wrenches
 - b. Hand tools: layout tools
 - c. Precision measuring tools: micrometers
 - d. Precision measuring tools: calipers
 - e. Belt drives
 - f. Belt drive installation
 - g. Belt drive alignment
 - h. High speed belt drives
 - i. Low speed belt drives
 - j. Belt types
 - k. Conveyors
 - l. Chain drive type: single roller
 - m. Chain drive type: double roller
 - n. Chain drive type: silent
 - o. Chain drive installation
 - p. Properties of horsepower
 - q. Steel components
 - r. Steel component layout
 - s. Steel component drilling
 - t. Steel component tapping
 - u. Belt drive troubleshooting
 - v. Chain drive troubleshooting
 - w. Troubleshooting technique implementation
 - x. High speed chain drive
 - y. Low speed chain drive
 - z. High horse power
 - aa. Low horse power
 - bb. Use of high versus low speed chain drive
 - cc. Use of high versus low horse power
2. Skills
 - a. Identifying and using adjustable wrenches
 - b. Identifying and using layout tools
 - c. Identifying and using micrometers
 - d. Identifying and using calipers
 - e. Installing belt drives
 - f. Aligning belt drives
 - g. Applying high speed and low speed belt drives
 - h. Installing a conveyor
 - i. Installing chain drives to correspond with compatible horse power
 - j. Laying out steel components
 - k. Drilling steel components
 - l. Tapping steel components
 - m. Troubleshooting operation of belt drives
 - n. Troubleshooting operation of chain drives
 - o. Implementing troubleshooting solutions
 - p. Differentiating use of high speed and low speed chain drives
 - q. Differentiating use of high horse power and low horse power
3. Issues
 - a. Preparation for inspection
 - b. Safety
 - c. Professional demeanor to promote credibility of the trade
 - d. Communication skills to promote effective interpersonal skills

Resources

Basaraba, Bruce. *Industry Trades Training Manual*. Alberta: IPT Publishing, 1998.

Garley, Ron. *Metal Training Manual*. Alberta: IPT Publishing, 1996.

United Brotherhood of Carpenters. *Introduction to Millwrighting*. Albany, NY: Delmar Publishers, 2001.

Resources Other

Carpenter's International Training Fund. <https://www.carpenters.org/citf-training/> . 2024.

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