

Interactive Multimedia Curriculum



Student Reference Guide



Optional Manual Machine Tool Package with Drill Press, Band Saw, Sander/Grinder, and Bench Vise

## Learning Topics:

- Band Saw Operation
- Selecting Stock
- Band Saw Safety
- Drill Press Safety
- Drill Press Tooling
- Drilling Holes
- Drill Press Operations
- Reaming
- Countersinking
- Counterboring
- Tapping and Chamfering

Amatrol's Machine Tools 1 Learning System (96-MP1) covers the uses and operation of two vital manufacturing tools: the band saw and the drill press. Learners will practice safely cutting raw material into precise lengths for manufacturing applications, as well as creating various hole types including countersink, counterbore, reamed, and tapped. The drill press and band saw are found in every manufacturing plant, so understanding their applications and how to safely operate them is essential for any future member of the workforce.

The Machine Tools 1 Learning System includes multimedia curriculum, an instructor's guide, installation guide, and a student reference guide. Schools can provide their own equipment or they can order Amatrol's Manual Machine Tool Package, which includes a band saw, drill press, bench vise, and belt sander. These components along with the multimedia curriculum will be used to cover topics like stock selection, parts of the band saw, drill press tooling, and tapping and chamfering. This learning system was designed as part of Amatrol's Project Based Learning program. The Project Based Learning program was designed for high schools to teach valuable problem-solving, teamwork, and STEM skills and provide a strong base to build toward careers in engineering, manufacturing, and many more or as a stand-alone system.



## Technical Data

Complete technical specifications available upon request.

**Multimedia Curriculum (MB701)**

**Instructor's Guide (B711)**

**Installation Guide (11921)**

**Student Reference Guide (HB701)**

**Additional Requirements:**

Machine Tool Package (15707) or equivalent

Capacity Machine and Hand Tools

Raw Materials (94-RM3, 94-RM6)

Computer: See requirements at: <http://www.amatrol.com/support/computer-requirements>

## Develop Skills Like Cutting Stock and Threading a Hole Using a Tap

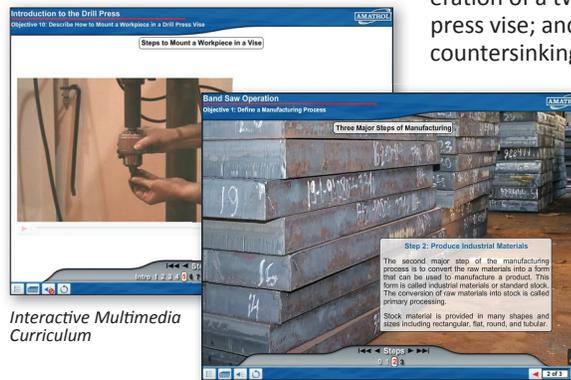
Amatrol is committed to providing heavy-duty components for real-world skill development. The equipment included with Amatrol's Manual Machine Tool Package are the same as those found in manufacturing facilities and tool shops, so learners will have the confidence and competency to use these machines when they're on the job. Some of the skills that learners will develop within the Machine Tools 1 Learning System's curriculum include: using the horizontal band saw to cut stock to a specified length; using basic layout techniques to mark the center points of holes on a workpiece; drilling holes using cutting fluid; drilling a pilot hole to prepare a hole for countersinking; and threading a hole using a tap and a tap wrench.



Countersinking Operation

## Interactive Multimedia Curriculum Covering Drill Press and Band Saw Safety Through Machine Operation

The Machine Tools 1 curriculum covers the function, parts, layout, operation, and applications of the band saw and drill press. As more in-depth examples, learners will study: the safety rules for band saws and drill presses that should be followed before and during operation; the operation of a twist drill; mounting a workpiece in a drill press vise; and the function and operation of reaming, countersinking, counterboring, tapping, and chamfering.

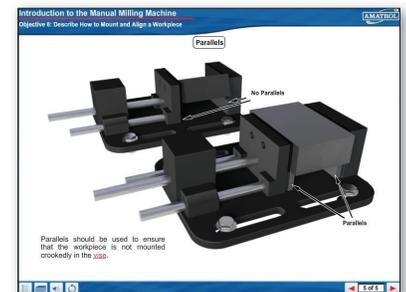


Interactive Multimedia Curriculum

This learning system's curriculum is presented in an interactive multimedia format that can be accessed anywhere, anytime with a computer and internet access. This on-the-go learning solution features all of the in-depth content that Amatrol is known for with the addition of stunning 3D graphics, videos, interactive quizzes and exercises, and voiceovers of all text.

## Expand Your Machine Tools Knowledge to include Manual Milling Machines and Manual Lathes

In addition to the knowledge and skills presented in this learning system, Amatrol offers expansion courses to further your Machine Tools training. Machine Tools 2 (96-MP2) covers topics like bench vises, hacksaws, files, and the manual milling machine, and Machine Tools 3 (96-MP3) focusses solely on the manual lathe through topics like: roughing and finishing operations, cutting chamfers, grooving operations, and threading operations.



Machine Tools 2 Multimedia Curriculum covering Manual Milling Machines



## Student Reference Guide

A sample copy of the Machine Tools 1 Student Reference Guide is also included with the system for your evaluation. Sourced from the system's curriculum, the Student Reference Guide takes the entire series' technical content contained in the learning objectives and combines them into one perfectly-bound book. Student Reference Guides supplement this course by providing a condensed, inexpensive reference tool that learners will find invaluable once they finish their training making it the perfect course takeaway.

