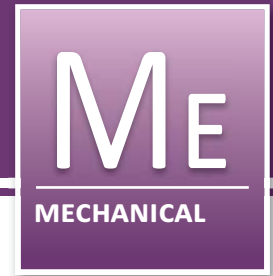
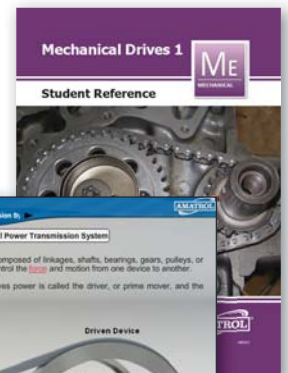


# Portable Mechanical Drives 1 Learning System

990-ME1



990-ME1



Multimedia Curriculum and Student Reference Guide

## Learning Topics:

- Introduction to Mechanical Drive Systems
- Shaft Speed Measurement
- Key Fasteners
- Torque and Power Measurement
- Power Transmission Systems
- Shaft Alignment
- Introduction to V-Belt Drives
- Belt Drive Concepts
- Introduction to Chain Drives
- Chain Tensioning
- Spur Gear Drives
- Spur Gear Installation and Analysis
- Multiple Shaft Drives
- Sleeve Couplings

Amatrol's Portable Mechanical Drives 1 Learning System (990-ME1) covers the fundamentals of mechanical transmission systems and applications, such as how to: operate, install, analyze performance, and design basic mechanical transmission systems using chains, v-belts, spur gears, bearings, and couplings. These fundamentals can be applied to a variety of applications within the automotive, agricultural, and power industries.

The 990-ME1 includes: a tabletop mounting work surface; a drive motor; a variety of components for belt, chain and gear drives; a digital tachometer; a mechanical load device; and an alignment package. This system uses industrial quality components to help assure that learners are better prepared for what they will encounter on the job and to withstand frequent use. These components will be used to cover major mechanical drives topics like shaft speed measurement, key fasteners, power transmission systems, belt drive concepts, chain tensioning, and gear backlash. The 990-ME1 features the ability to setup various drive systems, showing learners the effects of proper alignment and how to obtain best efficiency.



## Technical Data

Complete technical specifications available upon request.

### Tabletop Mounting Work Surface

- Aluminum
- Raised Mounting Feet
- Lifting Handles
- Drive Motor, single phase, 1/3 HP
- Safety Guard

### Power Panel

- Power Cord
- Variable Frequency Drive
- Potentiometer
- On/Off Switch
- Emergency Stop

### Couplings and Shafts

### Digital Tachometer

### Alignment Package

### Indicator Package

### Mechanical Load Device

### Fastener Hardware Kit

### Hand Tools

### Belt Drives Kit

### Chain Drives Kit

### Gear Drives Kit

### Motor Slide Base

### Multimedia Curriculum (M19148)

### Instructor's Guide (C19148)

### Install Guide (D19148)

### Student Reference Guide (H19148)

### Additional Requirements:

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

### Utilities:

Electricity: Single phase 115V/60, 230/50, or 220/60

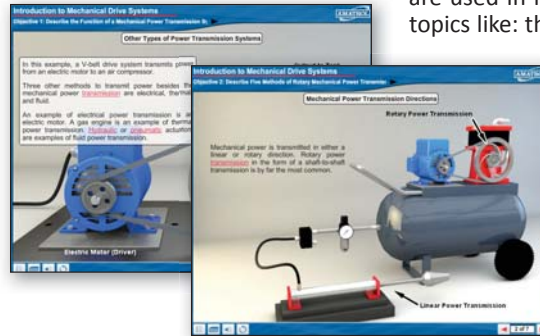
## Real-World Mechanical Drive Training in a Portable System

The 990-ME1 includes: an aluminum tabletop mounting work surface with raised mounting feet and lifting handles; a single phase, 1/3 HP drive motor with safety guard; belt drives; chain drives; gear drives; and much more! The aluminum tabletop workstation provides a precision-machined work surface enabling learners to perform precise shaft alignments. Mounting locations are pre-drilled in the work surface by a CNC machine to enable learners to quickly set up a variety of drives. As a sample of this system's competency building, the 990-ME1 allows learners to practice skills like: mounting an electric motor and correcting for soft foot condition; install and align a flexible jaw coupling; adjust belt tension; measure chain sag; and calculate gear ratio.



## Stunning Multimedia Curriculum Covers Key Fasteners, Spur Gear Drives, and Many More Power Transmission Systems Topics!

The 990-ME1 features world-class mechanical drives curriculum that will give learners a comprehensive understanding of how to operate, install, and analyze mechanical drives and how they are used in real-world applications. Learners will study topics like: the function and construction of a bedplate;



four types of shaft material; the operation of a fractional HP V-belt drive; how to determine allowable chain sag for a given application; and methods of measuring spur gear backlash, just to name a few. This curriculum is presented in a stunning interactive multimedia format. The multimedia features spectacular 3D animations and graphics, voiceovers of all text, videos, and interactive quizzes and activities.

## Expand Your Mechanical Drives Training with the 99-ME2 and 99-ME3

In addition to the theory and skills offered by the 990-ME1, learners can expand their mechanical drives knowledge through the optional Mechanical Drives 2 (99-ME2) and Mechanical Drives 3 (99-ME3) Learning Systems. The 99-ME2 covers v-belt, synchronous belt, chain drive systems, and much more! The 99-ME3 covers plain bearings, ball bearings, roller bearings, antifriction bearing selection and maintenance, gaskets and seals, advanced gear drives, and gear drive selection and maintenance.

## Student Reference Guide

A sample copy of the Portable Mechanical Drives 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.

