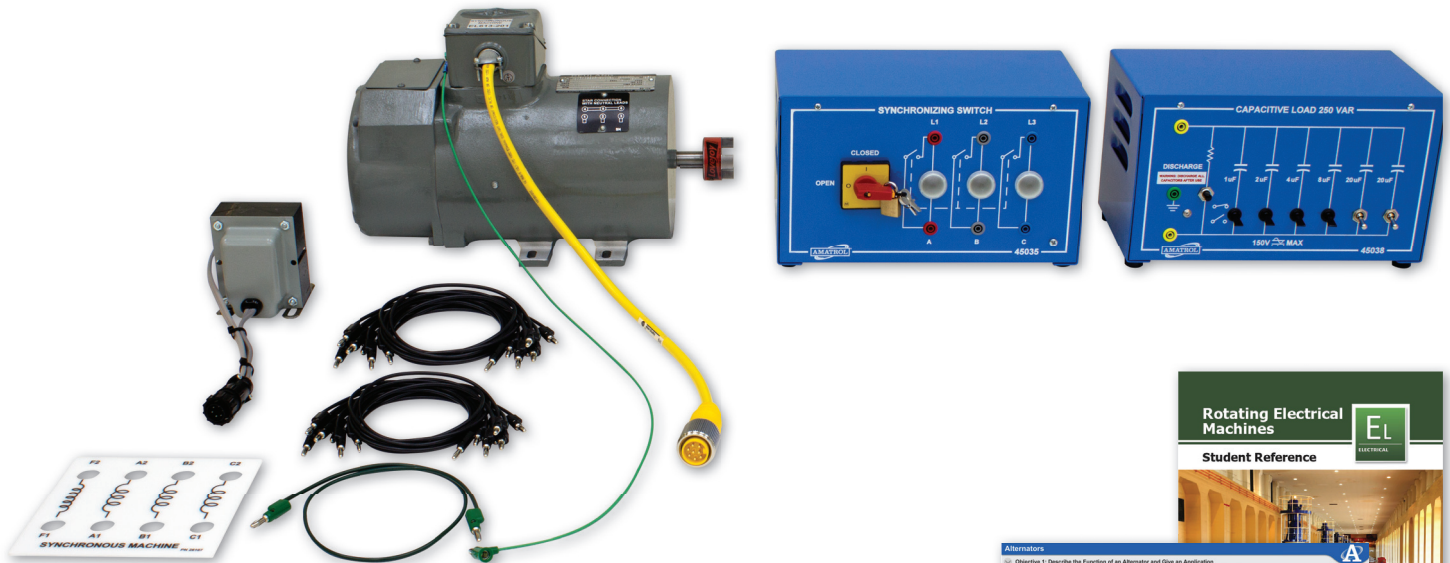
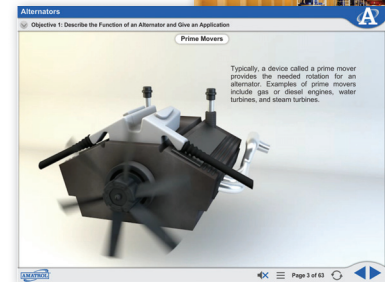
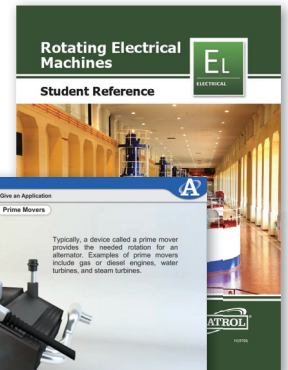


# Alternators / Synchronous Motors Learning System

85-MT2C



85-MT2C Learning System



Interactive Multimedia Curriculum and Student Reference Guide

## Learning Topics:

- Alternators
- Alternator Output Voltage
- Alternator Output Frequency
- Alternator Synchronization Methods
- Three Dark Synchronization Method
- Two Bright, One Dark Synchronization Method
- Synchronous Motors
- Power Factor Correction
- Reversing a Synchronous Motor

Amatrol's Alternators / Synchronous Motors Learning System (85-MT2C) adds to the Electric Machines Learning System (85-MT2) to teach alternators and synchronous motors commonly found in industrial applications. Alternators provide a mobile source of AC electrical power while synchronous motors reduce power costs by correcting the overall power factor in a plant. Learners study industry-relevant skills including how to operate, install, and analyze the performance of alternators and synchronous motors.

The 85-MT2C includes capacitive load, combination synchronous motor/ alternator, and synchronizing lights / switch unit. The capacitive load unit combines with the 85-MT2 to provide operation under various types of loads. In addition to industrial components, the 85-MT5C includes in-depth curriculum, instructor's guide, and student reference guide. The curriculum covers major topical areas such as alternator output voltage and frequency, three dark synchronization method, and reversing a synchronous motor.



## Technical Data

Complete technical specifications available upon request.

### Capacitive Load Unit

- Capacitive load (900 VAR)
- Black patch cord (50 cm)
- Green patch cord (50 cm)
- Branches of capacitance (6)
- Toggle switches (6)

### Alternator/Synchronous Motor

- 1/3 Hp (275 kW)
- Synchronous machine escutcheon

### Synchronizing Switch and Light Unit

- Indicator lamps (3)
- 3-phase synchronizing switch
- Black patch cords, 50 cm (6)
- Padlock, brass 5/32 D

### Regular Banana Lead Set (45044)

### Interactive Multimedia Curriculum (MB878)

### Teacher's Assessment Guide (CB878)

### Installation Guide (DB878)

### Student Reference Guide (H19706)

#### Additional Requirements:

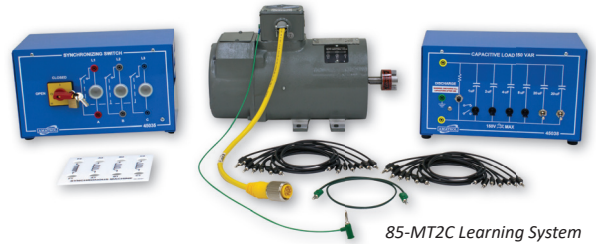
- Basic Electric Machines Learning System (85-MT2)
- Oscilloscope (17539)
- Computer Requirements: <http://www.amatrol.com/support/computer-requirements/>

#### Utilities:

- Electricity (208 VAC/60 Hz/3 phase)

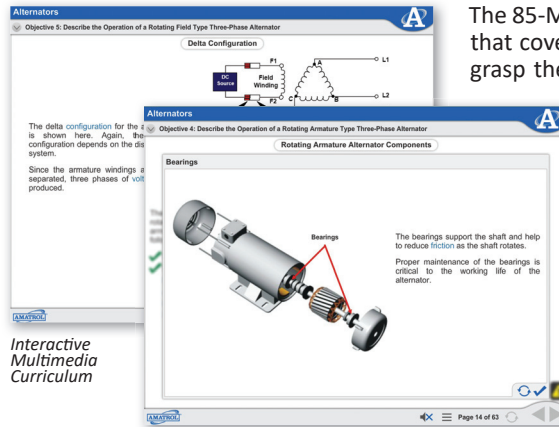
## Real-World Alternator / Synchronous Motor Skill-Building with Industrial Components

The Alternators / Synchronous Motors Learning System provides a variety of industrial components for skill-building, including a capacitive load unit, a synchronizing switch and light unit, and a 1/3 Hp alternator / synchronous motor. Learners will use these components to build hands-on electric machine skills, such as connecting and operating a rotating armature type alternator, controlling the frequency of an alternator, synchronizing an alternator to the line using three dark method, connecting and operating a synchronous motor, and operating a synchronous motor with lagging, unity, and leading power factor.



85-MT2C Learning System

## In-Depth Curriculum with Optional Interactive Multimedia



Interactive Multimedia Curriculum

The 85-MT5C offers Amatrol's in-depth curriculum that covers all of the topics that learners need to grasp theoretical concepts about alternators and synchronous motors. As an example of what's covered, learners will study how single-phase power is produced, how to synchronize alternators using two bright, one dark method, and how the DC field excitation level affects synchronous motor operation. This learning system offers curriculum in a multimedia format that features video, audio voiceovers, 3D animations, and interactive quizzes and activities.

## Additional Electrical Machine Training

The 85-MT5C is just one option for electrical machine training from Amatrol. Other options to add onto the Basic Electrical Machines Learning System (85-MT2) include DC Generators (85-MT2B) and Wound Rotor Motor (85-MT2D). The 85-MT2B includes a restrictive load unit and an inductive load unit to cover topics like performance measurement, performance analysis, and DC series, shunt, and compound generators. The 85-MT2D includes a wound rotor controller and motor to cover topics such as speed controllers, motor reversing, and performance analysis and measurement.



The 85-MT2B and 85-MT2D



## Student Reference Guide

A sample copy of the Rotating Electrical Machines Student Reference Guide is included with this learning system. 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.

