

Basic Mechanisms and Conveyors

This five-day course provides technicians with an understanding of the most common mechanical devices used for the production and application of motive force. The course covers the following major topics including fasteners, bearings, couplings, gears, drives, lubrication, alignments, and steel structures. In addition, the course covers common maintenance procedures.

I. Fasteners

- Classes of Fit
- Mechanical Properties
- Fastener Materials
- Torque and Tension
- Tightening Methods
- Measuring Fastener Torque
- Overview of Bolted Joints

II. Bearings

- Bearing Design and Construction
- Bearing Types
- Bearing Lubrication
- Bearing Inspections
- Bearing Removal
- Overview of Journal Bearings
- Bearing Care
- Bearing Failure Analysis

III. Couplings

- Purpose of Couplings
- Types of Couplings
- Terminology

IV. Gears, Drives, and Lubrication

- Gear Terminology
- Shaft Positions
- Type of Gears
- Gear Lubrication
- Belt Drive Selection

- Belt Drive Principles
- V-Belts
- Variable Speed Belt Drives
- Sheaves
- Chain Functions
- Chain Drive Principles
- Chain Types
- Principles of Lubrication
- Types of Lubrication
- Lubrication Programs
- Storage and Handling
- Sampling

V. Alignment

- Fundamentals
- Tools
- Methods of Alignment
- Correcting Soft Foot
- Pre-alignment Check List
- Types of Alignment

VI. Structural Steel

- Types of Structural Steel
- Mechanical Treatment of Steel
- Heat Treating Operations
- Commercial Steels
- Tool Steels
- Stainless Steels
- Special Alloy Steels
- Wire Sheets and Bars