



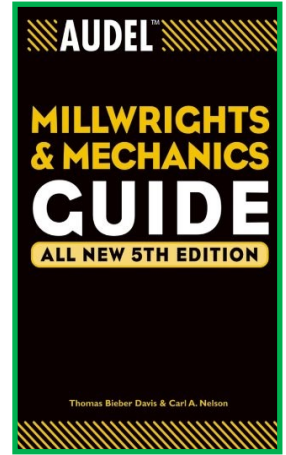
# MAINTENANCE TROUBLESHOOTING INTERNATIONAL LLC

IIM-102

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## IIM-102 INTRODUCTION TO INDUSTRIAL MAINTENANCE

Audel Millwrights and Mechanics Guide is the text for this course. This book, written by the founder of Maintenance Troubleshooting, Thomas Bieber Davis has sold over 50,000 copies and it is used in maintenance training throughout the USA, Canada, Australia, and England. Each student receives a copy of the book as well as other useful tools and guides to allow them to become proficient in the "hands-on" world of industrial maintenance. Learn how to sketch a job. How to level machinery. Become proficient in reading a Vernier caliper and micrometer. Learn to read a cut-away drawing. Identify screw threads and pitches (metric and SAE). Drill and tap holes. Thread and assemble pipe. Use a hydraulic press. Learn how to install bearing, sprockets, V-belts, sheaves and couplings, Practice installing a pillow block bearing and a flange bearing. Lubrication techniques for oil and grease. Make and use pump packing and learn to cut gaskets. Sensible personal safety procedures, LOTO instructions and use of MSDS & SDS sheets will be covered. Over 50% of the course consists of hands-on activities to keep people interested and motivated with real world challenges. Even if you think you know a subject, this course shows you tons of tricks and tips.



### SHOP TOOLS

- Precision leveling
- Shim calculation
- Baseplate leveling
- Starrett Chart
- Dial indication
- Use of fractional scale
- Measuring using outside & inside calipers
- Vernier calipers
- Vernier micrometers
- Screw pitch gauge (drill and tap a hole)
- Taper gauge and feeler gauges
- Basic hand tools and safety

### BEARINGS AND SHAFTING

- Bearing types
- Bearing series numbering
- Bearing identification
- Shaft seat measurement
- Using a cone heater to install a bearing
- Check for TIR
- Common fits for assembly

### V-BELTS AND SHEAVES

- Flat belts
- Common and narrow V-belts
- Determining belt size
- Checking a belt and alignment
- Sheave groove inspection
- Use of a V-belt tension tester
- Percent elongation method

### FLEXIBLE COUPLINGS

- Rigid and flexible couplings
- Grid couplings
- Elastomeric couplings
- Metallic couplings
- What are the best couplings to use
- Coupling alignment (Rough and Precision)

### USE OF A STROBE LIGHT FOR TROUBLESHOOTING

- Determination of RPM
- Slow motion study of rotating equipment
- Strobe inspection of shafting, couplings, and belts

### SIMPLE VIBRATION MEASUREMENT

- Use of a simple vibration instrument to determine
- Machinery condition
- Conditions of unbalance, looseness or misalignment
- Corrections of machinery faults
- Early determination of a bad bearing
- Checking for misalignment

### THERMAL MEASUREMENT

- Checking electric motor insulation
- Checking for bearing overheating
- IR measurement and what it means

### ADDITIONAL TOPICS & ACTIVITIES

- Use of the shop hydraulic or arbor press
- Learning to make simple shop calculations
- English system of measurement vs. Metric system
- Common sizes of materials
- Thermal expansion to remove or install components
- Feeler gauges and taper gauges
- Temperature measurement Fahrenheit and Celsius
- Centrifugal pumps and electric motor troubleshooting

### CLASS FORMATS AVAILABLE

- MTI Hands-On Center \$995/person
  - ZOOM Interactive \$995/person
  - On-Site (Your Location) Ask for Quote
- Quick Quote Available in 48 hrs.

### CLASS DURATION

2-days, 15 hours of instruction  
 50% Hands-On

### FREE TOOL AND BOOKS

AUDEL Millwrights and Mechanics Guide (\$80 value)  
 0-1" Micrometers (\$54 value)  
 6" Bearing ID Scale (\$11 value)

**Class Details:** Each student will receive class books, work activity sheets, self-test progress evaluations, as well as questions from the instructor to make sure they understand the material presented. It is expected that an attendee will leave the class with the basic knowledge of the subject and possess new found skills to better equip them when they return to their job. A certificate suitable for framing will be issued to each attendee who successfully completes the course. Call, email or check the website for the next time this course is scheduled at the MTI training center or as a ZOOM interactive session. On-site sessions? Request a quick 48-hour turnaround quote. Revised: 12/22/2020