Description: Downtime is expensive. Regardless of the precautions you've taken and preventive maintenance practices you've implemented, sometimes things just go wrong and you need it fixed now. But in order to fix it you must know how to isolate and define the problem, and that's what this course is all about - teaching you how to quickly and accurately troubleshoot mechanical rotating equipment so that you can avoid costly downtime. Rather than teaching about "equipment specific" situations you are taught to troubleshoot based on the common components that make up a piece of equipment. The attendee will learn about basic mechanical applications, failures, life expectancy and maintenance of shafts, bearings, couplings, chains, sprockets, bushings, gears, belts, sheaves and machine components. Most importantly you will learn how to find and fix the real problems with your equipment, and not just the symptoms.

COMMON ELEMENTS IN ALL EQUIPMENT
DETERMINING LIFE EXPECTANCY of MACHINERY COMPONENTS

BEARINGS
Anti-Friction & Plain

SHAFTING
Fracture and fretting
Shaft seats

HOUSINGS
Housing bores and proper fits

MACHINERY LUBRICATION
Oil or Grease?

COUPLINGS
Which coupling is the best
Slow-motion studies

V-BELTS AND SHEAVES
Tensioning and inspection

POSITIVE DRIVES
Timing belts and HTD belts
Synchronous drives

CHAIN DRIVES
Tooth and chain wear measurement

GEARS AND GEAR BOXES
Tooth inspection and measurement of backlash

VIBRATION ANALYSIS
Vibration severity and using The Rathbone Chart

ACOUSTICAL ANALYSIS
Shock pulse, SEG, and BDU

INFRA-RED INSPECTION
Infra-red thermometers and infra-red thermography

OIL ANALYSIS
Ferrographic and spectrographic techniques
Viscosity measurement

LOW RESISTANCE TESTING
Insulation resistance testing

HANDS-ON ACTIVITIES
More than 50% of the course will be "hands-on" and each student will receive work books and supervised instruction as well as individual one-on-one assistance to make sure they can accomplish the tasks assigned. It is expected that an attendee will leave the class with the basic knowledge and skill to troubleshoot problems with rotating mechanical equipment. Many state-of-the-art instruments are available to learn high-tech troubleshooting and determine what might work at your location.

DURATION AND ATTENDANCE
Three day duration (8 hours each day) and up to 12 students may attend. Call or email for dates of next scheduled session.
Phone: (302) 690.0871 Email: mechanicalengineer@pobox.com Cost of Course: $995
Revision Date: 04/14/2016  Return to Home Page: www.mtroubleshooting.com