



MAINTENANCE TROUBLESHOOTING INTERNATIONAL LLC

MBT-101

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MTB-101 MACHINERY BEARINGS: TECHNOLOGY AND IDENTIFICATION

Both the plain journal bearing and various anti-friction bearings are discussed in detail with heavy emphasis on the anti-friction type. The attendee is trained to be able to identify any bearing from any machine that might be missing numbering or coding. Discussion will include series numbering for Extra Light, Light Duty, Regular Duty and Heavy Duty application as well as handling of unmounted and mounted bearings. Ball bearings, cylindrical roller bearings, tapered roller bearings, thrust bearings, needle bearings and Conrad bearings will be presented as well as the best applications for each. SKF's Bearing Technology Guide Book and SKF's Motor Bearing Book will be used as classroom texts for this course, thereby bringing the most modern sources of bearing information to the attendee. Pillow block bearings and flange mounted bearings will be studied as well as their correct applications on real machinery. The users choice of open, shielded and sealed bearings are examined for proper life expectancy. Bearing cross referencing is used to select similar bearings from different vendors or manufacturing firms.



Types of Bearings

- Plain bearings
 - Metal — bronze, brass, oilite
 - Plastic — nylon, polypropylene, TFE, exotic
 - Wood
 - Babbitt — poured and bored
 - Clearances
- Anti-friction bearings
 - Ball bearings
 - Roller bearings
 - Spherical bearings
 - Flange mounted
 - Pillow block mounted
 - Special bearings: ceramic bearings, split bearings, pillow block bearings

Bearing Series Numbers

- Series numbers - Basic numbers
- Internal clearance numbers
- How to ID an unknown bearing
- Class exercise using a scale

Open Bearings

- Characteristics of open bearings
- How to order an open bearing

Shielding Bearings

- Characteristics of a shielded bearing. Captain America's SHIELD
- How to order a shielded bearing
- When to use a single shield
- When to use a double shield

Sealed Bearings

- Characteristics of a sealed bearing. "Arf arf" like a seal
- How to order a sealed bearing
- Why a sealed bearing is used
- When to consider replacement of a re-greasable bearing with a sealed bearing.

Unmounted Bearings

- Mechanical mounting and thermal mounting of bearings (what defines the method)
- Tools for mechanical mounting and tools for thermal mounting
- Removing a bearing when normal methods can be used
- Damaged bearing removal—burning with a torch vs. small cutting wheel

Mounted Bearings

- Pillow block bearings
- Using the eccentric lock and the set screw
- Split pillow block bearings — simple do's and don't's
- Using the feeler gauge to reduce internal clearance.
- Split pillow block mounting
- New technology mounted bearings—special cases for special problems

Bearing Lubrication

- Oil lubrication methods vs. Grease lubrication
- Selecting the right lubricant
- Calculating amount of grease
- Calculating re-greasing interval
- Using the right type of grease

Motor Bearings

- Horizontal vs. vertical mounting
- Special lubrication requirement for an electrical motor
- Proper lubrication procedures
- Use of special fittings to simplify greasing or over-pressuring the lubrication cavity.
- Choosing the correct lubricant

CLASS FORMATS AVAILABLE

- MTI Hands-On Center \$550/person
- ZOOM Interactive \$550/person
- On-Site (Your Location) Ask for Quote
Quick Quote Available in 48 hrs.

CLASS DURATION

1-day, 7-1/2 hours of instruction
25% Hands-On

FREE TOOLS AND BOOKS

- 6" Bearing ID Scale (\$11 value)
- SKF Manual Selected Pages
- SKF Motor Bearing Manual (\$20 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: 01/07/2021