

See More Than a Class Pass Around

- Bearing A-frosted band in raceway is normal wear
- Bearing B-spall in raceway, detect with vibration
- Bearing C-spalls 180°, marks 180°, fretting ID
- Bearing D-photo, melt/bent shaft, inner ring blue & dented by balls, balls blue, outer ring straw color
- Bearing E-shaft spun in bearing
- Bearings F1 & F2-pillow block, brg. spherical in hsg., eccentric lock to shaft, F1 “clicks” as rotates

Agenda

- Introduction
 - » Bearing Function
 - » Physical Behavior in a Rotating Bearing
 - » Bearing-Parts & Types
 - » Mounting-on Shaft & in Housing
- Design & Engineering
 - » Tolerances, Fits & Clearances
 - » Forces & Life
 - » Lubrication
- Illustrate Behavior, Design & Engineering
 - » Case Histories & Post Mortems

unction, Behavior, Parts, Types, & Mounting

- Brgs. are joints between rolling & stationary
- Most machines have multiple bearings
- #rolling element brgs.>>#journal brgs. (oil film)
- Fascinating Physical Behavior
 - » clearances about 0.0001 inch for typical bearing
 - » hydroplaning on thin oil film, millionths of inch
 - » demonstrate bearing defect frequencies
- Parts Textbook Figs. 10-17,18,19, seals & shields*
- Types & Ratings Text Figs. 10-20&21 & reverse side*
- Mounting Text Sec. 10.11 + pillow block * & mounting
*shown on the reverse side of this handout