

Bearing Maintenance

Course outline

- INTRODUCTION
 - PRINCIPLES OF FRICTION
 - ROLLING ELEMENT BEARINGS
 - FUNCTION OF BEARINGS
 - CATEGORIES OF BEARINGS
 - AXIAL LOAD OR RADIAL LOAD
 - SLIDING BEARINGS
 - PLAIN BEARINGS
 - CIRCUMFERENTIAL GROOVE BEARINGS
 - PRESSURE BEARINGS
 - CHARACTERISTICS OF BEARING MATERIAL FOR SLIDING BEARINGS
 - ROLLING ELEMENT BEARING CLASSIFICATIONS
 - ROLLING ELEMENT BEARINGS AND TOLERANCES
 - BEARING LOADS
 - RADIAL LOADS
 - AXIAL LOADS, OR THRUST LOADS
 - COMBINATION LOADS
 - BEARING LIFE
 - STANDARD BALL BEARING COMPONENTS
 - OPTIONAL BEARING COMPONENTS
 - BASIC BOUNDARY DIMENSIONS
 - LOAD CARRYING SURFACES
 - BALL BEARINGS TYPES
 - THE BASIC BEARING NUMBER SYSTEM
- **JOURNAL BEARING DISASSEMBLY, INSPECTION AND REASSEMBLY**
- BEARING DISASSEMBLY
 - Inspection
 - FITTING A NEW BEARING
 - REASSEMBLY

OUTLINE

➤ TILTED PAD THRUST BEARING

- TILTED PAD THRUST BEARING CONSTRUCTION
- TROUBLE SHOOTING INTRODUCTION

➤ LUBRICANTS AND THEIR APPLICATIONS

- FUNDAMENTALS OF LUBRICATION
- OIL COMPATIBILITY
- OIL TESTING AND ANALYSIS
- OIL PURIFICATION AND FILTRATION
- OIL OPERATING TEMPERATURE
- GREASE LUBRICATION
- GREASE COMPATIBILITY
- GREASE APPLICATION
- LUBRICANT SELECTION
- SAFETY
- BEARING LUBRICATION
- AMOUNT OF LUBRICATION (OIL LEVEL)

➤ LUBRICATION SYSTEMS

- CONSTANT LEVEL OILERS
- BATH OR WICK
- SPLASH
- AIR/OIL MIST
- OIL JET SYSTEM
- CIRCULATING-OIL LUBRICATION
- DRIP-FEED LUBRICATION
- HYDRAULIC LIFT LUBRICATION

➤ BEARING INSTALLATION AND REMOVAL

- THE IMPORTANCE OF CLEANLINESS
- PROPER TOOLS
- MOUNTING METHODS FOR BALL BEARING
- AXIAL LOCATION OF BEARINGS

OUTLINE



➤ COMMON BEARING PROBLEMS

- FAILURE ANALYSIS: BALL BEARINGS
- SIDING OR FLUID FILM BEARINGS FAILURES AND MAINTENANCE

➤ FITS AND TOLERANCES

- BEARING FIT
- TOLERANCE
- INNER RING MOUNTING METHODS
- BEARING HOUSINGS