COBRA-EHL

COMPUTER OPTIMIZED BALL & ROLLER BEARING ANALYSIS with ELASTOHYDRODYNAMIC LUBRICATION & ROLLER CROWN

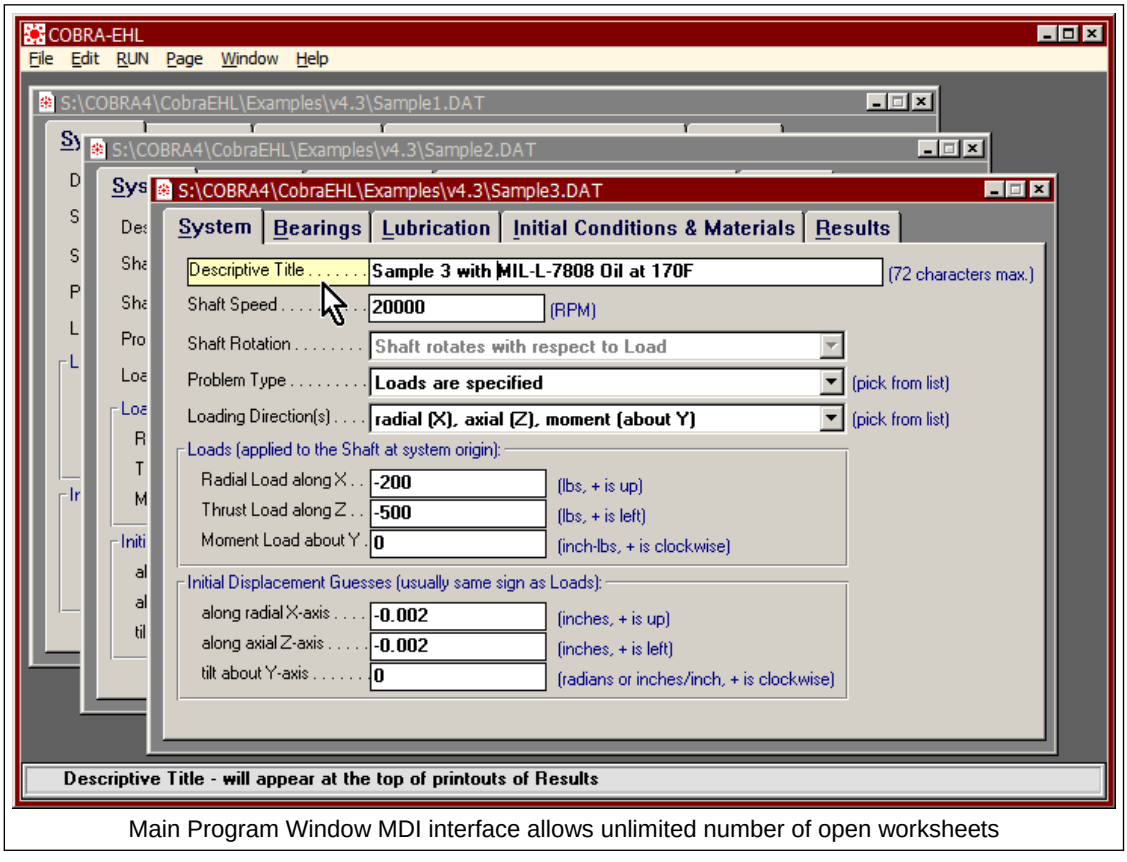
COBRA-EHL is a bearing analysis program that computes the behavior of up to six (6) bearings on a shaft under combined Radial, Thrust and Moment loading. The program has a modern menu-driven Windows interface with a multi-tabbed worksheet format, allowing users to interactively change input data and quickly generate results. Lubricant Film Thickness and associated Life Adjustment Factors are internally computed. Roller Crown analysis uses the approximate laminated roller model.

PROGRAM CAPABILITIES INCLUDE:

- Up to 6 Bearings on a rigid shaft
- Radial, Thrust & Moment Loads
- Specified Loads or Displacements
- Crowned Rollers w/ Lamina
- Solid and Spring Preload
- Internal Clearance & End-Play
- Misalignment
- Location Offsets
- Axial Float
- Actual or Estimated Geometry
- Hybrid Bearings
- Lubricant Film Thickness
- Lubricant Effects on B10 Life
- Library of Lubricants
- Inputs and Results in English units
- Integrated w/ ARMD Rotordynamics
- Copy Bearing Function
- Fast (typically 2 seconds per run)
- Results Immediately Available
- Copy Results to Clipboard
- Hard Copy for Printing

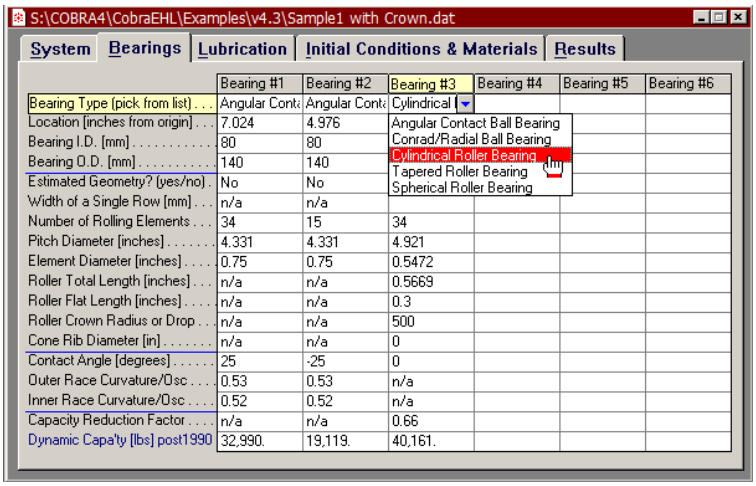
SIX (6) BEARING TYPES:

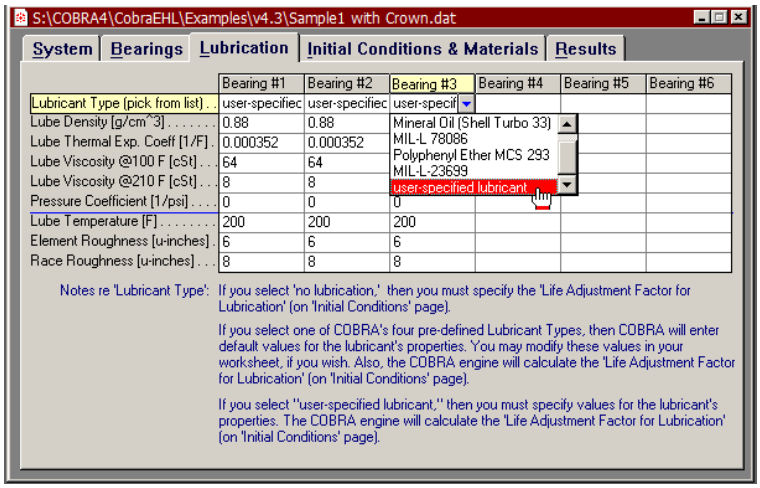
- Radial (Conrad) Ball
- Angular Contact Ball
- Cylindrical Roller
- Angular Contact Roller
- Tapered Roller
- Spherical Roller, Spherical Thrust

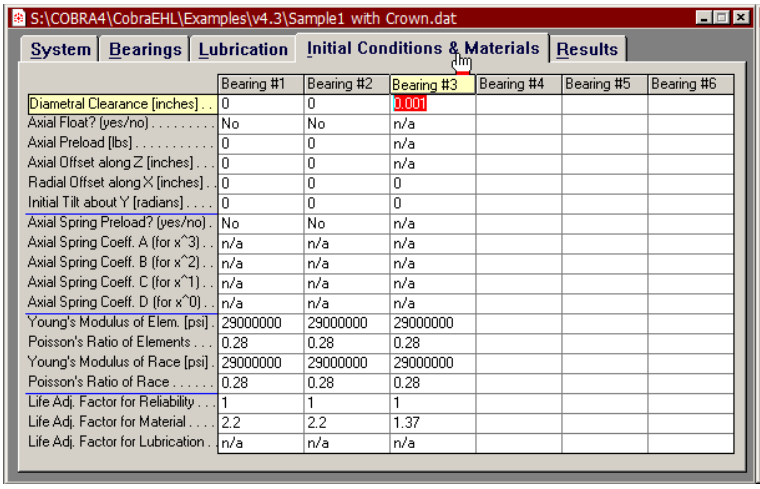


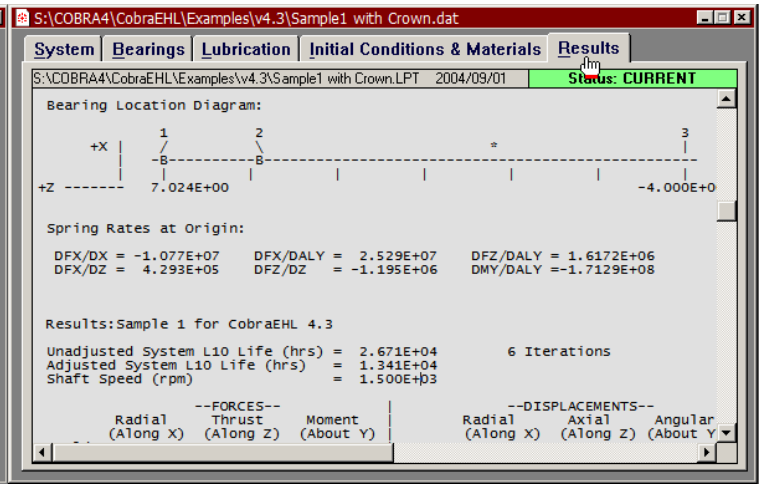
Main Program Window MDI interface allows unlimited number of open worksheets

J.V. POPLAWSKI & ASSOCIATES – Consulting Mechanical Engineers
528 North New Street; Bethlehem, PA 18018; **Phone**: 610-758-9601, **Fax**: 610-758-9661
Email: info@bearingspecialists.com **Web**: http://www.bearingspecialists.com









PROGRAM RESULTS INCLUDE:

- Bearing Reactions & Load Sharing
- Radial & Axial Spring Rates
- Angular Spring Rate
- Dynamic Capacity
- System L10 Life
- Bearing L10 Life
- Timken BRR & Life
- Load Zones
- Hertz Contact Stress
- Sub-Surface Shear Stress
- Depth to Maximum Shear Stress
- Operating Contact Angle
- Element Loads
- Contact Ellipse Size
- Required Shoulder Heights
- Adjusted Hybrid Bearing Life
- Lubricant Film Thickness
- Life Adjustment Factor-Lubrication
- Individual Element Output
- Stress Distribution across Crowned Rollers

LIMITATIONS:

DN Values must be under 1 million DN (RPM x Bore Size in mm)
3 Degrees of Freedom
COBRA-AHS is recommended to analyze higher DN values and/or 5 Degrees of Freedom

SYSTEM REQUIREMENTS:

Windows Operating System (2000, XP, Vista, Windows 7). CobraEHL is 32-bit, runs transparently on 64-bit Windows.
CD drive; USB port (parallel port optional).
4 MB free space on hard disk; 800x600 pixel screen resolution; 16-bit color display

PACKAGE INCLUDES:

Installation CD; End-User License; Example Problems; Printed Manual; USB Security Lock (dongle),
Free Technical Support for 1 year after purchase. Fee-based support available thereafter.

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