Current Version 15.00, Major Improvements since Ver 10.0 May 27, 2011

Rotor

- Improve the error checking during data entering
- Add flexible disk option
- Add offset disk option
- Increase max station number from 202 to 502
- Increase number of material properties from 20 to 201
- Increase the max allowable sub-element number from 10 to 20
- Increase the max allowable layer from 5 to 10
- Total allowable sub-element number is 5000
- Add liquid annual seal (Lomakin Effect)
- Add startup and shutdown transient lateral analysis
- Add material library
- Add MS Excel file Import and Export function
- Add foundation effect
- Add multiple layer (level) for the shaft elements
- Add more bearing types, coupled Reynolds equation with rotor equation in nonlinear transient analysis
- Add unit conversion function, save file in different units
- Allow overlapping the bearing stiffness into the critical speed map
- Add Amplification Factors in the response plots
- Improve the excitation data input for the torsional transient analysis
- Add periodic excitation in torsional time transient analysis
- Add non-linear coupling in torsional transient analysis
- Add modal stress plots for critical speeds
- Add stress plot in static deflection plot
- Add more plot types in torsional Campbell diagram
- Output animation gif files in additional to the bmp files
- Add magnetic unbalance for per GE Canada
- Add misalignment into steady state response analysis and transient analysis
- Fix all the graph screen size redraw problem
- Add steady state harmonic excitation analysis
- Add CG symbol in the plot if the CG Symbol is checked in the preference settings
- Add Steady Maneuvers Loads Analysis
- Display deflected disks in the undamped critical speed mode shapes
- Add flexible support effects in Static Deflection Analysis
- Add predicted response in Balancing Program
- Add Global re-Numbering for specified shaft and associated components
- Add more model checking features in modeling
- Remove AF=NA from the Bode Plot and Displacement Plot
- Add speed labels at Polar plot under Option-Settings
- Add unbalance magnitude in addition to the phase angle in the model plot – in Graphic Preference Settings

- Add setting for reverse phase angle display in Bode Plot like ADRE instrumentation, the phase angle draw reversely
- Add lateral vibration velocity and acceleration multipliers and Labels in Graphic Preference Settings
- Add **vertical rotor gravity effect** (gravity Z can be either positive or negative)
- Manual Scale will be automatically CHECKED once the scale is changed
- Add Roots Locus Plot
- Ability to ZOOM the stress plots
- Add rotational DOFs for the bearing-foundation connection
- Add bearing position and span in the text output, also in the graphic model display (setting in the Graphic Preference Settings)
- Add List Peaks for Bode plot under Options
- The bearing data is also converted when Rotor data is saved in different unit
- Add AF in the bearing/support force plot
- Increase the dialog box size for the disk data.
- Separate the mass and inertia into left and right ends for the User's Element
- Add Button to Export bearing dynamic coefficients in Critical Speed Map
- Allow different colors for each K in the Critical Speed Map
- Add Laby Seal Calculation under TOOLS (analysis provided by Dr. Kirk)
- Add Fluid Element (Fluid Coupling) under bearing type 3 – pseudo bearing
- Improve many graphic displays
- Support two help file formats: 1 – .hlp compiled from RTF files, 2 - .chm compiled from html files
- Modify the steady state harmonic excitation, so that it can be applied at the support stations. Before, it can only be applied at rotor elements (stations)
- Add Transient Analysis for multiple speeds (frequency domain), Analysis Type = 10. This allows for automatically generation of cascade plots (or waterfall plots), spectra intensity plot, order tracking plot, etc.
- Allow user to assign the temporary working directory where all the temporary files will be stored. This is used if your server does not allow the user to write on certain drivers, or directory folders.
- Add more model checking features

BePerf

- Introduce two coordinate systems in bearing analysis
- Add thrust bearings
- Add gas bearing
- Output K and C in different units
- Add Tapered Land Journal Bearing
- Add Worn Pocket Journal Bearing
- Add boundary conditions and bearing clearance checking features
- Add convert units in the bearing program
- Add multiple preloads for TPJ for a constant Cp
- Add speed labels in postprocessor - options – settings

- Add automatically generate K & C option in preference settings
- Add additional specified speeds in the analysis
- Improve the heat balance calculation for tilting pad bearings. Add flow effective factor, which allows for various oil supply conditions. Empirical value based on many lab experiments is suggested
- Improve computational accuracy and efficiency when advanced feature is used
- Improve many output displays
- Add Tools option
- Change bearing input dialog boxes to be *Modeless dialog boxes*, which stay on the screen and are available for use at any time but permit other user activities
- Add many more examples
- Support two help file formats: 1 – .hlp compiled from RTF files, 2 - .chm compiled from html files
- Improve some graphics