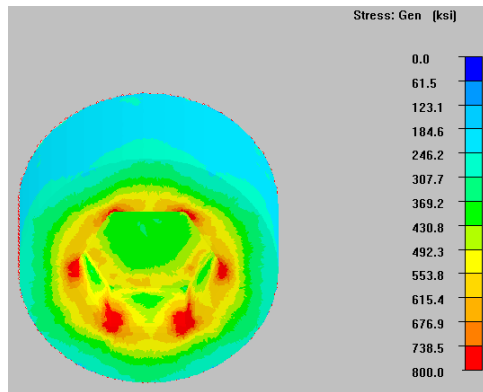


NAGSIM.3D Version 1.3 – New Features

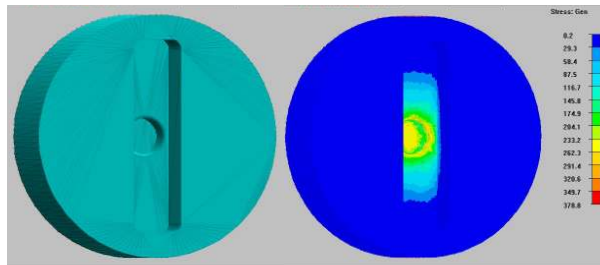
Following are some of the New Features of this version of NAGSIM.3D:

Elastic Stress Analysis of the Tools



Elastic Stress Analysis

Effective stress in Punch (without Shrink Fit)



Die Stress Analysis (T-Nut)

In this version of NAGSIM.3D, the user can analyze the tool stresses and deformation in the Elastic Analysis module. The program gives the user the ability to quickly analyze the stresses on the tooling and the effects of applying different Shrink fits on the tools.

Time Dependent Motion

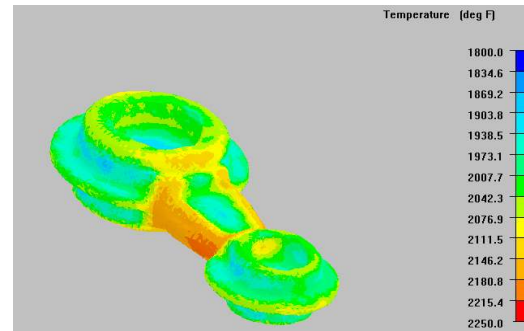
In this version, the motion of the tool can be defined as a function of time. This is done by defining 'Part Motion – Time Dependent Boundary Conditions'. The procedure is the essentially the same as for NAGSIM.2D. Using Time Dependent Motion BC, problems involving sliding tools can be simulated.

Advanced Mesher

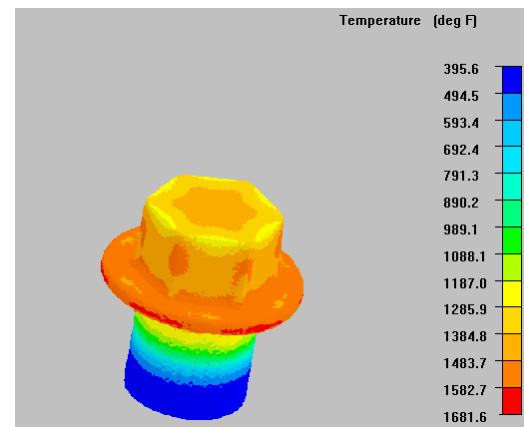
Significant improvements have been made to the previous version of NAGSIM.3D mesher. A new mesher based on Delaunay Incremental Method has been added for adoptive meshing of the tools.

Thermal Analysis

Cold, Warm and Hot Forging

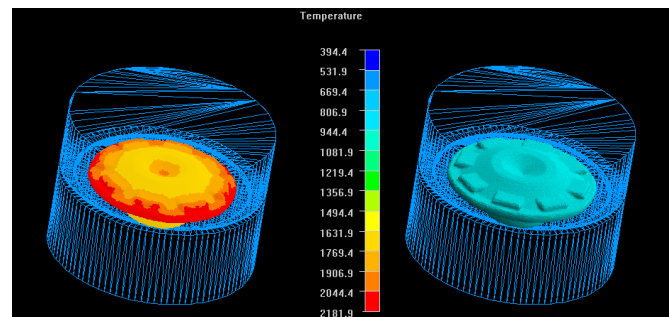


Hot Forging of Connecting Rod



Hot forging of Hex Bolt

(Different starting temperatures in the Head and Shank)



Hot forging of Side Gear

This version of NAGSIM.3D includes thermal analysis of the part and the tools. Following components of the thermal analysis are included:

- Flow Stress Data of various materials as function of Temperature, Strain and Strain Rate.
- Thermal properties including Conductivity, Heat Transfer Coefficients etc.
- Conduction, Convection and Radiation analyses.
- Display of results on Temperature