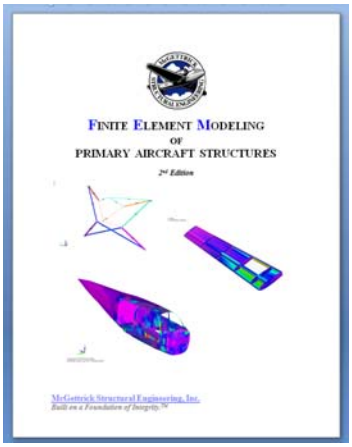


The ***F**inite **E**lement **M**odeling of Primary Aircraft Structures*, 2nd Edition and accompanying CD was originally developed to be a textbook for a semester-long university course. Later, the textbook was adapted for a weeklong short course.

NOTE: To perform the lab exercises in the ***F**inite **E**lement **M**odeling of Primary Aircraft Structures* book, you must obtain a Finite Element Software license, such as FEMAP with NASTRAN (used in the development of this book).

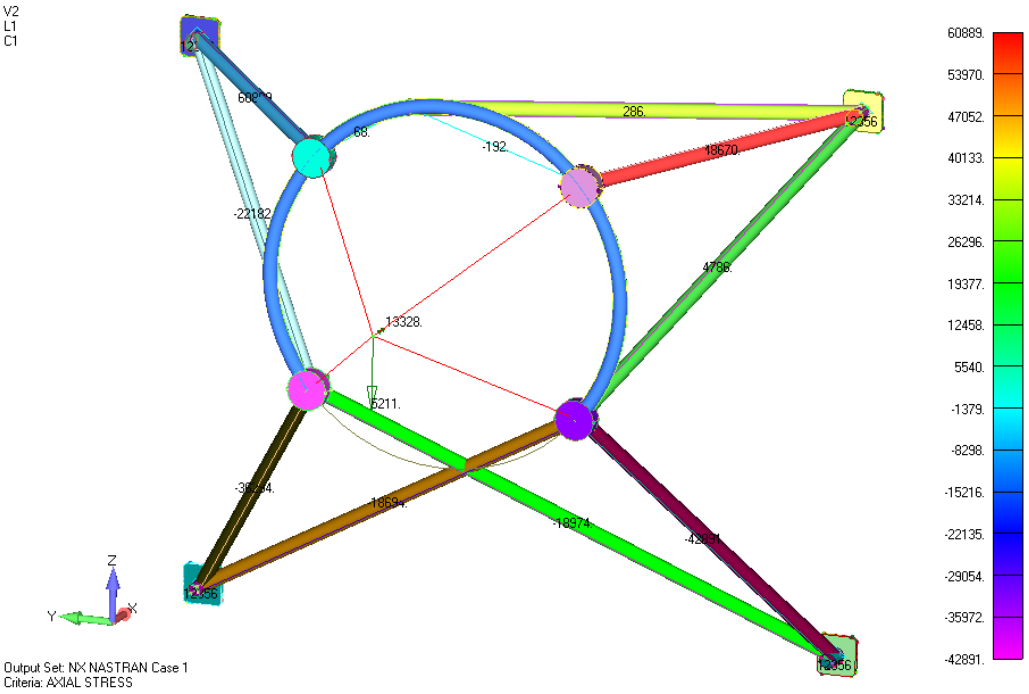
The ***FEM*** book contains 19 step-by-step labs, which are easy for beginners to follow, and three example Structural Analysis Reports. The book teaches how to model and analyze a welded tube engine mount, metal wing, and composite fuselage.

The included CD contains Geometry files needed to complete the courses, and other useful programs:

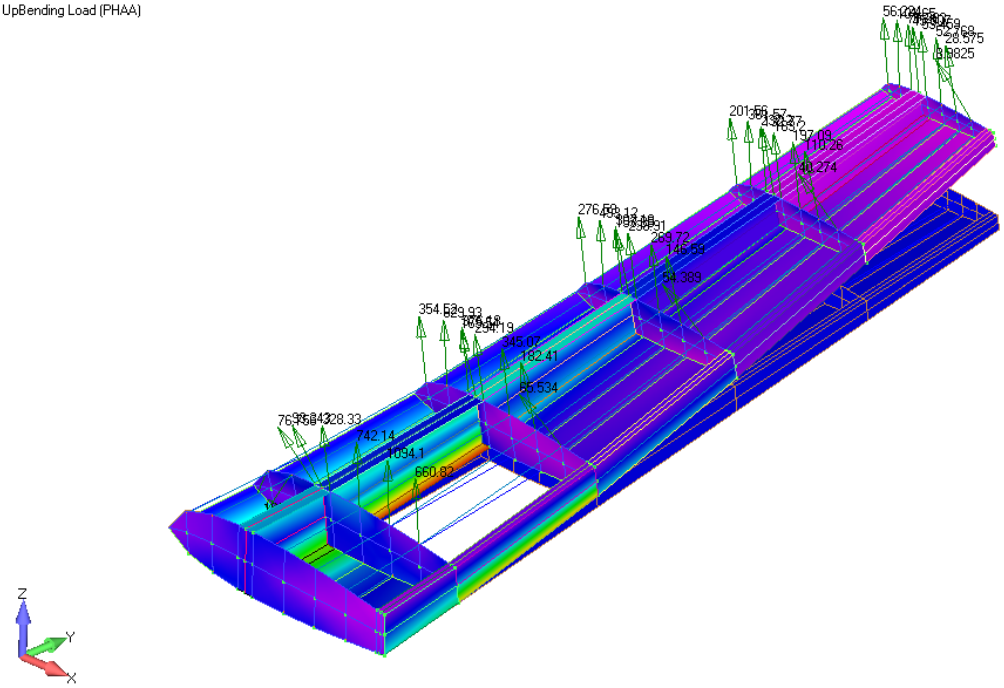
- Tubeanal – a windows program that provides margins of safety for tubes based on analysis of tension, compression, bucking and modulus of rupture.
- Wingload – a windows program that calculates a load distribution over the wing at selected wing stations and nodes.
- LAP – a windows program that calculates composite margins of safety for each ply using the quadratic interaction failure criteria.

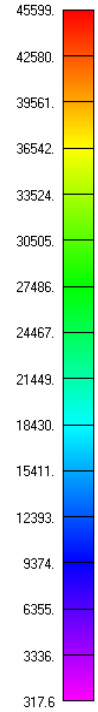
These programs are provided for free, and as such, are not guaranteed to work on all operating systems.
The software on this CD may not be freely distributed.

After completing the labs, you will have created the following three finite element models:

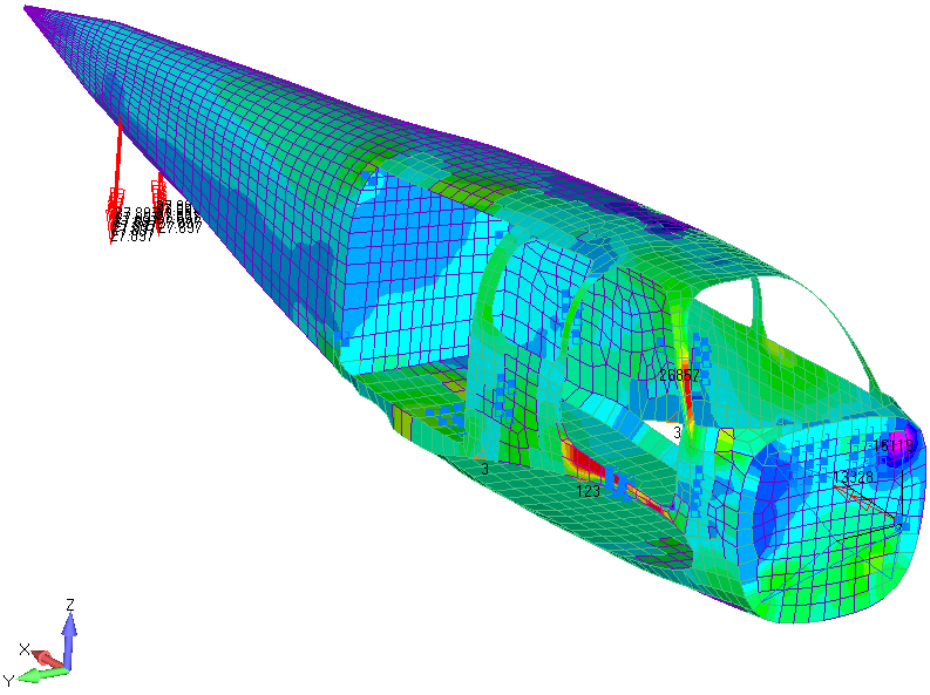


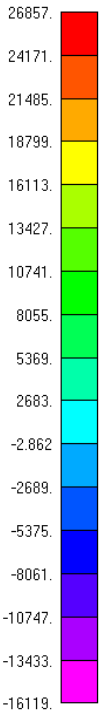
V: Untitled
L: Max UpBending Load (PHAA)





Output Set: NX NASTRAN Case 1
Deformed(6.071): Total Translation
Elemental Contour: Plate Top VonMises Stress





Output Set: NX NASTRAN Iteration
Elemental Contour: Lam Ply1 MajorPrn Stress