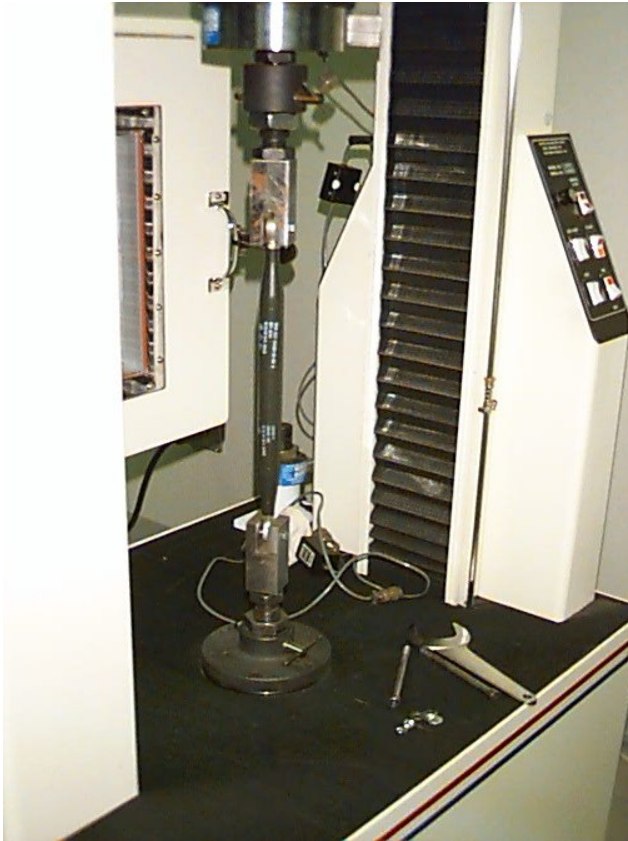
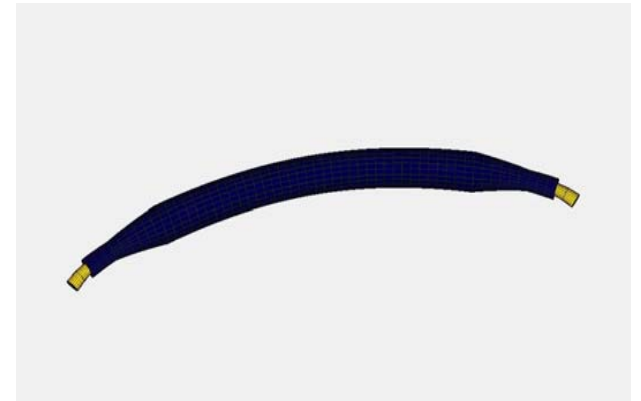


## Aerospace Case Study (Northwest Composites, Inc. – Composite Tie Rod)



Northwest Composites, Inc. used NEi Nastran to predict buckling loads in this luggage bin tie rod (left), which will be used in newer Boeing 767 Airliners. NEi Nastran predicted the critical buckling load within 0.5% of the average of 5 tests and was within 0.2% of the last one. The buckled mode shape predicted by NEi Nastran also matches the failed test specimen (upper and lower right). The high degree of accuracy can be attributed to NEi Nastran's advanced element library, which contains a variable 8 to 20 noded parabolic solid element (lower right) that can be used to model the thin 0.05 inch wall of the tube. The 2450 element model was generated and solved by an engineer at Northwest Composites in less than an hour. Of 5 other leading FEA products, only one was able to run this model and it over predicted the critical buckling load by 7%.



**NEi Software, Inc.** is aggressively focused on commitment to the customer. Detailed documentation, customized on-site training, and comprehensive technical support ensures that you will see immediate return on your investment.

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