

SECTION 1

INTRODUCTION



WHAT IS MD NASTRAN?

- MD Nastran is a general-purpose, finite element analysis program capable of solving a wide variety of engineering problems including:
 - Linear static analysis
 - Static analysis with geometric and material nonlinearity
 - Transient analysis with geometric and material nonlinearity
 - Normal modes analysis
 - Buckling analysis
 - Direct and modal complex eigenvalue analysis
 - Direct and modal frequency analysis (including random analysis)
 - Direct and modal transient analysis (including response spectrum analysis)

WHAT IS MD NASTRAN? (Cont.)

- Linear cyclic symmetry (including static, normal modes, buckling, and direct frequency response)
- Linear and nonlinear steady state heat transfer
- Linear and nonlinear transient heat transfer
- Aeroelasticity
- Substructure analysis (superelements)
- Design sensitivity and optimization
- Acoustics
- Composite Material Analysis
- p-elements



WHAT IS MD NASTRAN? (Cont.)

- Extensively documented (Online Documentation)
- Extensively tested
- Continually enhanced with new capabilities
- Highly efficient in the use of modern numerical analysis techniques
- Mainly written in FORTRAN (with some C), over 1.4 million program statements
- Used extensively by aerospace, automobile, energy, biomedical, and other industries

