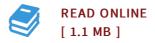




## Turbomachinery Course (Paperback)

By Henry Stinson

Bibliogov, United States, 2013. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*. In this viewgraph presentation, information and diagrams are provided on rocket engine turbopumps. These turbomachines are highly complex and have several unique features: (1) They are generally very high power density machines; (2) They experience high fluid dynamic loads; (3) They are exposed to severe thermal shocks in terms of rapid starts and stops and extremely high heat transfer coefficients; (4) They have stringent suction performance requirements to minimize tank weight; (5) Their working fluids significantly impact the design: oxidizers are generally explosive, they afford almost no lubrication for bearings and seals, some fuels can degrade material properties, cryogenics result in severe thermal gradients; (6) Their life requirements are short relative to other turbomachines in that there are hundreds of cycles and a few hours of operation for reusable systems. The design of rocket engine turbomachines is a systems engineering challenge because multiple engineering disciplines must be integrated to deal with issues pertaining to stress, structural dynamics, hydrodynamics, aerodynamics, thermodynamics, and materials and process selection.



## Reviews

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