

1. Record Nr.	UNINA9910457218703321
Autore	Lomax Ted L
Titolo	Structural loads analysis for commercial transport aircraft [[electronic resource] ] : theory and practice // Ted L. Lomax
Pubbl/distr/stampa	Reston, Va., : American Institute of Aeronautics and Astronautics, c1996
ISBN	1-60086-246-2 1-60086-118-0
Descrizione fisica	1 online resource (297 p.)
Collana	AIAA education series
Disciplina	629.134/31
Soggetti	Airframes - Design and construction Structural dynamics Transport planes - Design and construction Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	""Cover""; ""Title""; ""Copyright""; ""Table of Contents""; ""Preface""; ""Nomenclature""; ""Chapter 1. Introduction""; ""1.1 Applicability of the Analysis""; ""1.2 Criteria""; ""1.3 Methodogy""; ""1.4 Static Aeroelastic Phenomena""; ""1.5 Sign Convention""; ""Chapter 2. Symmetrical Maneuvering Flight""; ""2.1 Symmetrical Maneuvering Flight Definition""; ""2.2 Symmetrical Maneuver Load Factors""; ""2.3 Steady-State Symmetrical Maneuvers""; ""2.4 Abrupt Pitching Maneuvers""; ""2.5 Abrupt Unchecked Pitch Maneuvers""; ""2.6 Abrupt Checked Maneuvers (Commercial Requirements)""; ""2.7 Abrupt Checked Maneuvers (Military Requirements)""; ""2.8 Minimum Pitch Acceleration Requirements""; ""Chapter 3. Rolling Maneuvers""; ""3.1 Parameters Required for Structural Load Analyses""; ""3.2 Symmetrical Load Factors for Rolling Maneuvers""; ""3.3 Control Surface Deflections for Rolling Maneuvers""; ""3.4 Equations of Motion for Rolling Maneuvers""; ""3.5 Maximum Rolling Acceleration and Velocity Criteria""; ""3.6 Roll Termination Condition""; ""3.7 Nonlinear Lateral Control Inputs""; ""3.8 Aeroelastic Effects""; ""Chapter 4. Yawing Maneuvers""

""4.1 Parameters Required for Structural Load Analyses""""4.2 Rudder Maneuver Requirements FAR 25 Criteria""; ""4.3 Engine-Out Maneuver Requirements FAR 25 Criteria""; ""4.4 Equations of Motion for Yawing Maneuvers""; ""Chapter 5. Flight in Turbulence""; ""5.1 Sharp-Edge Gust Criteria Based on Wing Loading""; ""5.2 Revised Gust Criteria Using Airplane Mass Ratio""; ""5.3 FAR/JAR Discrete Gust Design Criteria""; ""5.4 Continuous Turbulence Gust Loads Criteria""; ""5.5 Vertical Discrete Gust Considerations""; ""5.6 Transient Lift Functions"" ""5.7 Vertical Gust Continuous Turbulence Considerations""""5.8 Multiple DOF Analyses""; ""5.9 Lateral Gust Considerations""; ""5.10 Oblique Gusts""; ""5.11 Head-On Gusts""; ""Chapter 6. Landing Loads""; ""6.1 Criteria per FAR/JAR 25.473""; ""6.2 Landing Speed Calculations""; ""6.3 Two-Point Landing Conditions""; ""6.4 Three-Point Landing Conditions""; ""6.5 One-Gear Landing Conditions""; ""6.6 Side Load Conditions""; ""6.7 Rebound Landing Conditions""; ""6.8 Landing Gear Shock Absorption and Drop Tests""; ""6.9 Elastic Airplane Analysis""; ""6.10 Automatic Ground Spoilers"" ""Chapter 7. Ground-Handling Loads""""7.1 Ground-Handling Conditions""; ""7.2 Static Load Conditions""; ""7.3 Taxi, Takeoff, and Landing Roll Conditions""; ""7.4 Braked-Roll Conditions""; ""7.5 Refused Takeoff Considerations""; ""7.6 Turning Conditions""; ""7.7 Towing Conditions""; ""7.8 Jacking Loads per FAR/JAR 25.519""; ""7.9 Tethering Problem""; ""Chapter 8. Horizontal Tail Loads""; ""8.1 Horizontal Tail Design Load Envelopes""; ""8.2 Balanced Maneuver Analysis""; ""8.3 Abrupt Unchecked Elevator Conditions""; ""8.4 Checked Maneuver Conditions""; ""8.5 Vertical Gust Conditions"" ""8.6 Unsymmetrical Load Conditions""

---