

Requisitos Federal Aviation Regulations:

Part 23 - Airworthiness standards: Normal, utility, acrobatic, and commuter category airplanes

En este documento se reflejan las normativas que se consideran aplicable al documento de RFP propuesto para la clase de Cálculo de Aviones . Dichas normativas se refieren a las normas de aeronavegabilidad según la agencia gubernamental de la *Federal Aviation Administration* (FAA) de los EE.UU. para los aviones en la categoría de transporte. Se ha optado por esta normativa en vez de la equivalente Europea por estar mejor detallada en la WWW por lo que facilitará su utilización a todos los estudiantes.

El resumen que se incluye en este documento, no incluye todas sus variantes, por lo que se recomienda a los estudiantes que se dirijan a las originales para posibles carencias en la información que se incluye en este documento.

Dicha información se puede obtener en la página web de la FAA:

- http://www.faa.gov/regulations_policies/faa_regulations/ seleccionando [Electronic Code of Federal Regulations \(e-CFR\)](#).

Siempre hay que tener en cuenta que las normativas que se consideran aplicable en este documento tienen que servir más como un complemento para el RFP del AVLJ, dónde poder obtener información relativa a los requisitos que deben de cumplir que puedan no estar definidos en el RFP, y que sirvan para ayudar a la definición del diseño. El resumen de la normativa que será aplicable al diseño del AVLJ es la siguiente.

1. FAA FAR Part 1 – Definitions and abbreviations (Para saber el significado de los acrónimos empleados a lo largo de las normativas)
2. FAA FAR Part 23 - Airworthiness standards: Normal, utility, acrobatic, and commuter category airplanes –
SUBPART B - FLIGHT
 - a. Performance
 - i. FAR 23.45 - General
 - ii. FAR 23.49 - Stalling period
 - iii. FAR 23.51 - Takeoff speeds
 - iv. FAR 23.53 - Takeoff performance
 - v. FAR 23.55 - Accelerate-stop distance
 - vi. FAR 23.57 - Takeoff path
 - vii. FAR 23.59 - Takeoff distance and takeoff run
 - viii. FAR 23.61 - Takeoff flight path
 - ix. FAR 23.63 - Climb: General
 - x. FAR 23.65 - Climb: All engines operating
 - xi. FAR 23.66 - Takeoff climb: One-engine inoperative
 - xii. FAR 23.67 - Climb: One engine inoperative
 - xiii. FAR 23.69 - Enroute climb/descent
 - xiv. FAR 23.71 - Glide: Single-engine airplanes
 - xv. FAR 23.73 - Reference landing approach speed
 - xvi. FAR 23.75 - Landing distance

- xvii. FAR 23.77 - Balked landing
- b. Controllability and Maneuverability
 - i. FAR 23.143 - General
 - ii. FAR 23.145 - Longitudinal control
 - iii. FAR 23.147 - Directional and lateral control
 - iv. FAR 23.149 - Minimum control speed
 - v. FAR 23.151 - Acrobatic maneuvers
 - vi. FAR 23.153 - Control during landings
 - vii. FAR 23.155 - Elevator control force in maneuvers
 - viii. FAR 23.157 - Rate of roll
- c. Trim
 - i. FAR 23.161 - Trim
- d. Stability
 - i. FAR 23.171 - General
 - ii. FAR 23.173 - Static longitudinal stability
 - iii. FAR 23.175 - Demonstration of static longitudinal stability
 - iv. FAR 23.177 - Static directional and lateral stability
 - v. FAR 23.181 - Dynamic stability
- e. Stalls
 - i. FAR 23.201 - Wings level stall
 - ii. FAR 23.203 - Turning flight and accelerated turning stalls
- f. Spinning
 - i. FAR 23.221 - Spinning

3. FAA FAR Part 23 - Airworthiness standards: Normal, utility, acrobatic, and commuter category airplanes

SUBPART C - Structure

- a. General
 - i. FAR 23.301 - Loads
 - ii. FAR 23.302 - Canard or tandem wing configurations
 - iii. FAR 23.303 - Factor of safety
 - iv. FAR 23.305 - Strength and deformation
 - v. FAR 23.307 - Proof of structure
- b. Flight Loads
 - i. FAR 23.321 - General
 - ii. FAR 23.331 - Symmetrical flight conditions
 - iii. FAR 23.333 - Flight envelope
 - iv. FAR 23.335 - Design airspeeds
 - v. FAR 23.337 - Limit maneuvering load factors
 - vi. FAR 23.341 - Gust loads factors

- vii. FAR 23.343 - Design fuel loads
- viii. FAR 23.347 - Unsymmetrical flight conditions
- ix. FAR 23.349 - Rolling conditions
 - x. FAR 23.351 - Yawing conditions
- xi. FAR 23.361 - Engine torque
- xii. FAR 23.363 - Side load on engine mount
- xiii. FAR 23.365 - Pressurized cabin loads
- xiv. FAR 23.367 - Unsymmetrical loads due to engine failure
- xv. FAR 23.369 - Rear lift truss
- xvi. FAR 23.371 - Gyroscopic and aerodynamic loads
- c. Control Surface and System Loads
 - i. FAR 23.391 - Control surface loads
- d. Horizontal Stabilizing and Balancing Surfaces
 - i. FAR 23.421 - Balancing loads
 - ii. FAR 23.423 - Maneuvering loads
 - iii. FAR 23.425 - Gust loads
 - iv. FAR 23.427 - Unsymmetrical loads
- e. Vertical Surfaces
 - i. FAR 23.441 - Maneuvering loads
 - ii. FAR 23.443 - Gust loads
 - iii. FAR 23.445 - Outboard fins or winglets
- f. Ailerons, Wing Flaps, and Special Devices
 - i. FAR 23.455 - Ailerons
 - ii. FAR 23.459 - Special devices
- g. Ground Loads
 - i. FAR 23.471 - General
 - ii. FAR 23.473 - Ground load conditions and assumptions
 - iii. FAR 23.477 - Landing gear arrangement
 - iv. FAR 23.479 - Level landing conditions
 - v. FAR 23.481 - Tail down landing conditions
 - vi. FAR 23.483 - One-wheel landing conditions
 - vii. FAR 23.485 - Side load conditions
 - viii. FAR 23.493 - Braked roll conditions
- 4. FAA FAR Part 23 - Airworthiness standards: Normal, utility, acrobatic, and commuter category airplanes
 - SUBPART D - Design and Construction
 - a. Wings
 - i. FAR 23.641 - Proof of strength
 - b. Control Surfaces

- i. FAR 23.651 - Proof of strength
 - ii. FAR 23.655 - Installation
 - c. Landing Gear
 - i. FAR 23.721 - General
 - ii. FAR 23.729 - Landing gear extension and retraction system
 - iii. FAR 23.733 - Tires
 - iv. FAR 23.735 - Brakes
- 5. FAA FAR Part 23 - Airworthiness standards: Normal, utility, acrobatic, and commuter category airplanes
 - SUBPART E - Powerplant
 - a. Fuel System
 - i. FAR 23.951 - General
 - ii. FAR 23.954 - Fuel system lightning protection
 - iii. FAR 23.967 - Fuel tank installation
- 6. FAA FAR Part 23 - Airworthiness standards: Normal, utility, acrobatic, and commuter category airplanes
 - SUBPART G - Operating Limitations and Information
 - a. General
 - i. FAR 23.1501 - General
 - ii. FAR 23.1505 - Airspeed limitations
 - iii. FAR 23.1507 - Operating maneuvering speed
 - iv. FAR 23.1513 - Minimum control speed
 - v. FAR 23.1519 - Weight and center of gravity
- 7. FAA FAR Part 23 - Airworthiness standards: Normal, utility, acrobatic, and commuter category airplanes
 - Appendices
 - a. Appendix A to Part 23 - Simplified Design Load Criteria
 - b. Appendix C to Part 23 - Basic Landing Conditions