



Capabilities Statement

Overview

Our team provides aerospace engineering services in the technical areas of loads, dynamics, flutter, CFD, and mass properties analysis. We have experience in every stage of aircraft design – from project inception to final certification. We have more than 100 years of combined experience in many types of aircraft, including general aviation, business jets, special missions, large transports, and eVTOL aircraft. LDG has the necessary resources and experience to support any aircraft project. We are dedicated to elevating your company with engineering solutions tailored to the needs of your project.

Services

LDG has capability to provide the following services:

► Loads and Dynamics

- Structural static and dynamic loads analyses
 - FAA Loads DER (14 CFR Part 23 and 25)
 - Flight, ground, landing, maneuver and gust
 - Component loads (nacelles, fairings, antennae, struts, inlets, etc.)
 - Flight loads survey and validation
- Aeroelastic Analyses
 - FAA Flutter DER (14 CFR Part 23 and 25)
 - Whirl flutter analysis
 - Flight flutter testing
 - Ground Vibration Test (GVT) support and analysis
- Finite Element Analysis (FEA)

► CFD and Applied Aerodynamics

- Stability and control analysis and databases
- Critical conditions for aerodynamic loads
- Supply of mapped pressure data for loads and FEM analysis
- Calculation of impact of modifications on aircraft performance
- Aerodynamic induced vibrations assessments
- Design and Analysis:
 - Airframe, radomes, fairings
 - Cooling and ventilation system
 - Icing accretion and ice shedding
 - Calculation of field of regard for antennas and sensors
 - Lighting obscuration analysis
 - 14 CFR 25.571(e) birdstrike analysis
 - Propeller design and analysis

► Weight and Balance / Mass Properties

- Preliminary weight estimates
- Weight-CG envelope definition
- Weight & Balance design support, documentation, and certification

► Test Support and Analysis

- Ground and flight test
- GVT and flight flutter test
- Flight loads survey

► FAA Certification

- FAA Aircraft Loads and Flutter DER (14 CFR Part 23 and 25)
- Certification plans
- TC & STC certification documents
- FAA DER Approval

Our Team

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Dynamic Loads and Flutter, Consultant

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Mass Properties, Consultant

Experience

■ Aircraft Modifications

- Special Mission Aircraft - Gulfstream G550, GIV, GIII, Bombardier CL850, CL605, King Air, various Cessna models
- Satcom installation - A321, B737, B767
- Auxiliary fuel tank installation - B737, A321
- Learjet M45, M75
- Cessna CJ1, CJ2, CJ3
- Passenger to freighter conversions

■ New Aircraft Design

- Learjet M60, M45, M75
- Hawker 4000
- Iomax Archangel
- Joby Aviation S4
- Overair OA-1 Butterfly

■ FAA Certification & DER Consulting Services

- Loads and dynamics
- Flutter and GVT
- Mass properties
- FAR 23 and FAR 25 aircraft