

**COMPANY DESCRIPTION:**

Airdyne is a small, privately owned, highly focused aircraft special mission systems engineering, manufacturing and aerospace research firm.

**POSITION TITLE:** Senior Mechanical Engineer

**LOCATION:** Calgary, Alberta, Canada

**SUMMARY OF POSITION/ POSITION DUTIES:**

The senior mechanical engineer will perform duties to support research and development of the SABIR system and additional new products.

The objective is to employ a team member that can support the customer with rapid engineering solutions.

Represent Engineering through proactive participation and communication with other engineering personnel and organizations (e.g., Management, Quality Assurance, Production, Design, Supplier and Customers) to provide actions (e.g., hardware and drawing investigations, consultation with other Engineering Personnel, and answer Manufacturing Shop Queries / Questions) and results (e.g., drawing changes, process improvements).

**Responsibilities:**

- Support the development of weight-optimized, compliant airworthy components and structural assemblies which satisfy the contractual design criteria as well as any producibility requirements defined by Manufacturing and Quality.
- Perform detailed 3D designs; generate CAD drawings and related documents, and support manufacturing and assembly of components.
- Assume ownership of tasks and drive to closure quickly and efficiently.
- Create, review and approve structural substantiation reports & other engineering documents
- Manage and track multiple priorities while maintaining a focus towards common project goals.
- Document and troubleshoot component anomalies
- Integration of precision sensor components into airframe
- Creation and maintenance of technical drawings and bill of materials
- Participate and present in internal and external (customer) design reviews.

## **REQUIRED:**

- You must have at least 15 years of relevant engineering experience.
- You must have at least a Bachelor's degree in engineering.
- Possess in-depth knowledge of and applicable experience with aircraft structural analysis methods, including hand calculation experience for mechanical joints. Using resources such as MMPDS, Bruhn, Roark, etc., aircraft fasteners, materials, sheet metal assemblies, machined fittings, composites (fiberglass/carbon fiber), and honeycomb and solid laminate construction.
- Practical understanding of drafting standards (ASME Y14.100).
- Appropriate knowledge of regulatory issues related to aircraft design and analysis is required (FAA and/or military).
- Minimum of 7 years of experience with CAD Software (preferably SOLIDWORKS).
- Experience with the structural and fatigue analysis of mechanical and electronic components. System and component level static, vibration, acoustic, modal, shock test experience with aerospace flight hardware.
- You must provide evidence of proficiency in performing advanced stress analysis capability using NASTRAN and finite element modeling.
- The applicant must have good communication skills, be fluent in English (spoken and written) and proficient in MS Word and Excel for report writing and analysis preparation.
- Must be able to work effectively in a team environment.
- Candidates for this position must have nothing in their background that precludes international travel and/or access to any military installation

**DESIRED:**

- Design experience with sensors (optical/RF/Radar), avionics, and other complex kinematic systems involving design work starting at the conceptual level, maturing into full 3D modeling, validation with FEA analysis and hand calculations, and continuing into manufacturing.
- Experience and capabilities should include over 8 years of classical aircraft hand stress analysis methods and/or NASTRAN (FEMAP) finite element modeling.
- Experience with composites.
- Experience with fracture mechanics.
- 7 years working experience with government and Federal Aviation Authority (FAA) regulations and their impact on conformity and compliance (i.e., certification, qualification).
- Experience testing aerospace components/assemblies to validate conformance.
- 15 or more years of direct Mechanical Engineering experience, preferably in the spacecraft or aerospace industry, with significant project ownership.
- Detailed mechanical design knowledge of structures, mechanisms, actuators, and material selection.
- Working knowledge of applicable manufacturing processes such as machining, finishing, and rapid prototyping.
- Practical understanding of GD&T (ASME Y14.5).
- Experience using test instrumentation and control components (e.g. pressure transducers, thermocouples, relays, solenoid valves, etc.) Providing test input/instrumentation data to personnel and collaborating with engineering personnel to interpret/correlate test results.
- Understanding and incorporating other applicable mechanical (thermal, materials, etc.) and system level requirements/parameters into the stress analyses.

**TYPE OF WORK:** Lockheed Martin C-130/L-100, Alenia C-27J, or similar.

**SALARY AND BENEFITS:** Based upon qualifications.

**JOB TYPE:** Full-time

**ELIGIBILITY OF APPLICANTS:** Must be legally authorized to work in Canada.

**TRAVEL:** Yes

**RELOCATION:** Yes

**INTERVIEW TYPE:** Telephone or Company Site

***All applicants must include a cover letter and salary requirements to be considered.***

Cover letter must provide the following:

1. Introduction
2. Reason that individual would be the best fit for the position
3. Questions about the position.
4. Salary Requirements

All qualified applicants will receive consideration for employment without regard to race, national or ethnic origin, colour, religion, age, sex, sexual orientation, gender identity or expression, marital status, genetic characteristics, disability or conviction for an offence for which a pardon has been granted or in respect of which a record suspension has been ordered. No person shall be denied employment opportunities or benefits for reasons unrelated to ability and, in the fulfilment of that goal, to correct the conditions of disadvantage in employment experienced by women, Aboriginal peoples, persons with disabilities and members of visible minorities by giving effect to the principle that employment equity means more than treating persons in the same way but also requires special measures and the accommodation of differences.