

SAFE Inc. is customer focused, results-based engineering firm providing technical services such as mechanical testing, failure analysis, environmental testing, design, stress, fatigue and damage tolerance analysis for the aviation industry. We provide comprehensive engineering and maintenance support to the Department of Defense, commercial airlines, and major repair and overhaul facilities. Support includes evaluation and approval of repairs and modifications, evaluation of process specifications, development of specialized installation and tooling procedures, research and development or certification mechanical testing. Engineers at SAFE possess an in-depth working knowledge of all aspects of the DoD research, development, testing and evaluation (RDT&E) effort; basic research, applied research, advanced technology development, demonstration / validation, and engineering / manufacturing development (technology transition). SAFE's work also includes engineering research at the United States Air Force Academy's Center for Aircraft Structural Life Extension (CASTLE). **SAFE Inc.** is a *Service-Disabled Veteran Owned Small Business (SDVOSB)*. www.saf-engineering.com.

Position Description:

SAFE Inc. has an opening for a *Junior Engineer or Scientist* to support research and development activities in the areas of mechanical test and analysis, aircraft structures analysis and test, fatigue crack growth, additive manufacturing using supersonic particle deposition (SPD) and failure analysis of metallic components.

Work Location: USAF Academy, Colorado and Monument, Colorado

The ideal candidate:

- Takes pride in the high standards required of a world-class R&D organization
- Is detail-oriented
- Recognizes the importance of building and maintaining strong interpersonal relationships
- Demonstrates an enthusiasm for learning new skills
- Identifies and evaluates opportunities to improve capability through process and capital improvements
- Possess the professional acumen to efficiently operate in a facility shared by multiple organizations with unique priorities
- Effectively balances support for multiple concurrent programs

Responsibilities include:

- Experience with mechanical testing of aerospace materials under static and dynamic loading conditions to ASTM standards including, but not limited to E8, E466, E647, and E399
- Inspection of part dimensions and tolerances using metrological best practices
- Failure analysis support including microscopy and metallurgical sample preparation
- Design of test specimens and test apparatus
- Creation of engineering drawings and coordination with manufacturing to complete fabrication
- Designing, executing, and analyzing experiments based on statistical techniques
- Providing structural analysis and design support
- Identifying critical uncertainties and the overall approach to address each uncertainty
- Developing, communicating, and executing test plans to demonstrate mechanical damage and corrosion resistance of air, land, and sea vehicles
- Defining and communicating scope of work and experimental intent, concluding on scientific work and sharing learnings with other groups
- Documenting work via reports, memorandums, and data sheets
- Working with external suppliers of raw materials, components, processes, and testing apparatus
- Maintaining awareness and control of intellectual property

Qualifications:**Required Job Qualifications:**

- Bachelor's degree in Mechanical, Materials or Aerospace Engineering (or a related degree)
- Demonstrated ability in the development and execution of experiments, testing, data analysis and documentation of results under the direction of senior personnel
- Demonstrated ability to prioritize, initiate, and drive projects to completion
- Ability to clearly communicate ideas, concepts, and conclusions to both highly technical and non-technical associates
- Solid knowledge of engineering fundamentals and ability to apply this knowledge to problem-solving
- Working knowledge of the fundamentals of statistics
- Ability to work in a hands-on environment during all phases of projects
- Strong mechanical aptitude
- Ability to work independently and as part of a team
- Ability to network and interact effectively with a broad range of associates spanning varied disciplines and responsibilities, both internally and externally
- Ability to travel periodically (~10%)
- Must have the legal and ongoing authority to work in the US

Desired Job Qualifications:

- Familiarity with mechanical and fatigue testing in accordance with ASTM standards such as E8, E466, E399, E647, G44 and similar
- Working knowledge of fatigue crack growth testing including DC potential drop systems
- Working experience with metallic air, land, and sea vehicles materials such as 2XXX, 5XXX, 6XXX, and 7XXX series aluminum alloys and stainless steel alloys
- A background understanding of Linear Elastic Fracture Mechanics (LEFM)
- Experience in failure analysis of aerospace aluminum, titanium, and steel materials
- Experience using LabVIEW for instrumentation and control
- Designing, building, and testing prototypes
- Working knowledge of drawings, dimensional tolerancing, and other part and material specifications

Application Notes:

Please submit a cover letter and resume with references to Lmm@saf-engineering.com

Position will remain open until filled.