



AVIATION DISASTERS • STRUCTURAL FAILURE • PATENT INFRINGEMENT • PRODUCT LIABILITY • PERSONAL INJURY

## Curriculum Vitae for Glenn Armellino MS,PE

### SUMMARY

Offering expert witness and engineering consulting services for the legal, insurance and aerospace industries specializing in the strength analysis of metallic and composite airframe structure and secondary electromechanical systems.

### SKILLS

Over thirty years of mechanical engineering experience specializing in static and fatigue stress analysis of primary and secondary airframe structure and electro-mechanical components including static, shock, vibration and thermal studies. *A Catia v5 and Femap power user with strong finite element modeling skills including coupled solutions, non-linearity studies and modal analyses.* Experienced in coordinating a variety of complex test programs including development, qualification and certification testing. Well-developed hand calculation and meticulous formal stress report writing skills in accordance with FAR Part 25 and 29 Airworthiness Standards with emphasis on correlation of FEM, test and classical solutions. Known for devising innovative and efficient communication methods based on individual case requirements, consolidating data, streamlining analyses and effectively defending an engineering standpoint.

### EDUCATION

**MS MECHANICAL ENGINEERING**, Stevens Institute of Technology, Hoboken, NJ

February 2011

**BS MECHANICAL ENGINEERING**, University of Colorado, Boulder, CO

May 1986

### ENGINEERING EXPERIENCE

***Under contract to Kinetic Aerospace Engineering Solutions, St. Augustine, FL***

***Stress Analyst – F-18***

***3/2019 to Present***

Responsible for static and fatigue stress analysis on F-18 airframe under NAVAIR Service Life Enhancement Program (SLEP). Currently handling static and fatigue stress analysis of metallic and composite doors, fuselage and wing skins, frames and longerons. Utilizing NAVAIR proprietary tools including MAK5 and LifeWorks to extend the useful service life of the aircraft. Responsible for formal stress report writing with MS Office. Core engineering tools are Femap v12, Patran 2019 and MSC/NASTRAN.

***Under contract to SIKORSKY AIRCRAFT CORPORATION, Stratford, CT***

Senior Stress Analyst – CRH, S-76 and Presidential Helicopter 3/2010 to 3/2011 and 11/2014 to 3/2019

Responsible for static and fatigue analysis on the CRH and Presidential platforms involving complete structural modernization of the legacy Blackhawk and S-92 airframes. Specifically handled composite and metallic stress analysis, finite element modeling and formal report writing with Femap v11, PASA, Catia v5, Patran 2012 and MSC/NASTRAN as core analysis tools. Off-site consultant responsible for structural redesign of the S-76D platform including static and shock load analysis of seat attachments and related primary structure with emphasis on enhanced range, visibility and crash worthiness.

***Under contract to GULFSTREAM AEROSPACE CORPORATION, Savannah, GA***

Structural Test Analyst – Advanced Aircraft Products 2/2007 to 8/2009 and 3/2011 to 11/2014

Responsible for development and analysis of full-scale certification test fixtures via coordination with in-house test facility for the AAP product line. Established discrete, enveloping test cases and published LVDT, load cell and strain gage predictions for multiple structural certification tests. Published numerous formal structural test reports including requirements documents, test plans and results/correlation reports. Interfaced with FEM, design, stress, ODA/DER and senior program managers on a routine basis. Responsible for static and fatigue stress analysis of primary and secondary airframe structure per FAR 25 Airworthiness Standards from conceptual design stage thru PDR, CDR, flight certification and first build. Built numerous solid, 2D, internal loads and detailed stress FE models using Femap and Patran 2005 as core analysis tools. Authored four formal flight certification reports for issuance to the FAA.

***Under contract to ITT DEFENSE SYSTEMS, Amityville, NY***

Stress Analyst/Mechanical Design Engineer – Pneumatic Weapons Ejection System 3/2006 to 12/2006

Responsible for design and analysis of missile deployment mechanism for LAU-145/A (JCM/JDRL) rail launcher from conceptual design to final stage modeling and detailing. Core engineering tools were Pro/ENGINEER Wildfire 2.0 and ANSYS Workbench 10.0. Responsible for structural sizing of pneumatic drive linkage utilizing conventional kinematic analysis in conjunction with Pro/MECHANISM for numerous manufacturing trade studies with stringent weight and envelope constraints in place.

***Under contract to MAROTTA CONTROL SYSTEMS, Montville, NJ***

Mechanical Design Engineer/Project Engineer – Pneumatic Weapons Ejection Systems 7/2003 to 12/2004

Oversaw top-level integration of mechanical design, analysis, manufacturing and assembly efforts for prototype development of company's largest aerospace contract (M-PACT) utilizing Pro/ENGINEER 2001 and Ansys Multiphysics 8.0 as core design and analysis tools. Responsible for implementation of napkin sketch concept to acceptance testing and delivery of functional HPPAG (high pressure pure air generator) for F-18 E/F Super Hornet and AH-64 A/D Apache Helicopter. Key POC for numerous technical issues with strategic partner (Rix Industries, San Francisco, CA). Performed thermodynamic, static, fatigue, thermal, shock and vibration analyses using conventional hand calculations and Ansys V8.0 Multiphysics. Successfully demonstrated functioning prototype to end customer on time and within budget (1 yr, \$1.2M).

***Under contract to GE AVIATION, Whippany, NJ***

Stress Analyst/Mechanical Design Engineer – Airbus A380 Electromechanical Actuation Systems 1/2001 to 6/2003

Responsible for design and analysis of flight qualified linear and rotary electro-mechanical actuators from conceptual design to final delivery utilizing Pro/ENGINEER and Ansys Classic at advanced levels. Coordinated with electrical engineering department on power budget, motor design, PCB packaging, envelope constraints, weight, thermal, shock, vibration and fatigue. Sized and analyzed brushless DC motors, gear trains, shafts and bearings for static and dynamic loading using conventional freebody means, energy methods and specialty gear tooth analysis software (Fairfield and UTS). Employed formal DFM/A analysis to develop make-buy criteria for project critical budget and schedule control.

**PRECISION DYNAMICS, INC., Denville, NJ**

President and Owner – Product Development and Multi-axis CNC Milling Specialists 1/1993 to 12/2000

Responsible for complete range of supervisory and managerial duties for all full-time and part-time employees including schedule, budget, workload delegation, performance and salary review. Simultaneously oversaw all engineering and manufacturing methodologies for a broad range of markets including aerospace, industrial and traditional design and build machining efforts. Lead engineer on all projects involving design for automation through application of kinematics, strength of materials and drive line component selection. Formal point of contact for widely varying customer base for all in-house and outsourced efforts. Responsible for CNC programming via SmartCAM Freeform, Pro/ENGINEER, Pro/MANUFACTURE and hand-written FANUC and YASNAC NC machine programs. Strong familiarity with both conventional and indexable tool selection, feeds, speeds, tool path strategies and work holding methods for complex milling operations.

**NORTHROP-GRUMMAN CORP., El Segundo, CA**

MRB Stress Analyst – F/A-18 C/D Hornet 10/1986 to 6/1992

Handled all phases of MRB efforts for support of production line aircraft including static and fatigue stress analysis of primary airframe structure through finite element modeling, experimental strain gage data and classical hand calculations on aft fuselage and vertical tail redesign for assembly line, fleet and accident damaged aircraft.

**ADDITIONAL**

- Well-equipped home office with all required technical references and state-of-the CAD/CAM software
- A lifetime of involvement in the automotive industry including show quality, frame-off restorations
- Single, willing to travel regularly as required
- US Citizen
- Secret Security Clearance – Status: ACTIVE
- Perfect health, athletic appearance