

Neil J. Hamilton

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Seeking a **Mechanical Engineer** position

Executive Summary

- Mechanical engineer with 7 years experience; 4 years experience as an aircraft test engineer; 3 years design, 4 years experience as a military aircraft mechanic
- Pro Engineer, AutoCad and SolidWorks; Geometric and Dimensional Tolerancing (GD&T); Hands-on machining experience

Relevant Experience

Design Engineer (Consultant position)

2009

AMPAC-In Space Propulsion

Niagara Falls, NY

- Designed space flight qualified fuel manifolds, rocket thruster brackets and other hardware
- Designed assembly tooling for large satellite sub-assemblies
- Created drawings using Geometric and Dimensional Tolerancing (GD&T ASME Y14.5M)
- Designed for functionality, simplicity, manufacturability, inspection and assembly
- Utilized hands-on mechanical knowledge to always keep the end user in mind with regard to safety, ease of assembly and maintainability
- Proficient in Pro/Engineer (Pro/E), SolidWorks and AutoCad

Design Engineer

2008

HDM Hydraulics

Tonawanda, NY

- Designed and specified materials for hydraulic cylinders in AutoCad and SolidWorks
- Created designs which met cost targets and gross margin when produced
- Calculated hydraulic cylinder component stresses, cylinder buckling loads and burst pressure
- Designed hydraulic cylinders for manufacture with regards to machining, welding and assembly
- Designed to maintain sliding fits, o-ring extrusion gap and ease of assembly
- Designed assembly tooling, jigs and fixtures
- Created quotes and bills of materials (BOMs) in Vantage manufacturing database
- Set time required for specific manufacturing processes in BOMs
- Communicated with external customers to determine technical requirements
- Communicated with internal customers regarding manufacturability of hydraulic cylinders and their components

Applications Lab Engineer

2007-2008

Ameritherm

Scottsville, NY

- Determined feasibility of induction heating for customer applications by conducting tests on customer supplied samples
- Planned, conducted and reported on customer application induction heating tests
- Designed, built, modified and brazed custom copper induction heating coils
- Performed calculations to determine correct size machine for specific applications
- Communicated with customers to determine technical requirements

US Navy Civilian Test Engineer

[2003-2007: DOD Secret Clearance](#)

Aircraft Survivability

China Lake, CA

- Developed and tested a highly effective prediction methodology for vulnerability of carbon-fiber components based upon material properties lessened stressed area and use of standard stress concentration factors
- Demonstrated lethal vulnerabilities on several multi-million dollar military aircraft

- Led a cross-functional team of experts to conduct complex tests on military aircraft and aircraft vulnerability reduction technology
- Planned, conducted, evaluated and reported on classified tests of the Predator UAV, other UAVs, the H-53 helicopter, lightweight aircraft armor and self-healing ionomer fuel tank
- Wrote test funding proposals, detailed cost estimates, budgets (up to \$350,000) and schedules for complex aircraft vulnerability (gunfire) tests
- Determined appropriate shot lines through select aircraft components based on likelihood of failure
- Designed complex test set ups with regard to optimal placement for test articles, Mann barrel test guns, data collection, video and remote fire fighting equipment
- Reduced raw instrumentation data into a meaningful, usable form in Microsoft Excel spreadsheets
- Served on a US Navy armor contract source selection technical committee
- Provided survivability expertise in Poland to support a joint US Navy-Polish armor project
- Trained in Defense Acquisition Workforce Act (DAWIA)
- Mentored a colleague in the application of aforementioned prediction methodology for a helicopter main and tail rotor application

US Navy Civilian Mechanical Engineer Intern

2002-2003

Various Departments

China Lake, CA

- Designed tooling for the Hellfire missile for assembly process in the Pro Engineer (Pro/E) computer aided design (CAD) system utilizing Geometric and Dimensional Tolerancing (GD&T)
- Designed test stands and hardware integrated into an existing F-18 fighter jet full-up test article structure in Pro/E to support ballistic testing at the Weapons Survivability Laboratory
- Proficient in Geometric Dimensioning and Tolerancing (GD&T ASME Y14.5M)

F-117 Stealth Fighter Aircraft Mechanic

[1995-1999: DOD Secret Clearance](#)

US Air Force

Holloman Air Force Base, NM

- Achieved journeyman level mechanic status in 1996
- Maintained, repaired and inspected mechanical, hydraulic, electro-mechanical and airframe components of the F-16 fighter aircraft (\$18.8M) and the F-117 Stealth Fighter aircraft (\$42.6M)
- Maintained and supported F-117 operational sorties in support of operation Southern Watch while on 2 separate deployments to Kuwait
- Trained in the theory and practice of aircraft maintenance including turbo-mechanical, hydraulic and electro-mechanical systems on the F-16 and F-117
- Awarded United States Air Force expeditionary and achievement medals while deployed in Kuwait

Education

Bachelor of Science in Mechanical Engineering

Graduated 2002

New Mexico State University

Las Cruces, NM

- Graduated with honors and a 3.71 grade point average
- Gained experience in AutoCad and working in a factory environment and at 6 month co-op at Cummins Natural Gas Engines in Clovis, NM
- Gained factory experience working at the Visteon Hot Form Forging division in Monroe, MI

Professional Affiliations

ASME [American Society of Mechanical Engineers]

Member since 2001