

MARK J. SIEMER

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SUMMARY OF QUALIFICATIONS

Mechanical Engineer skilled in the development, prototyping, and production of new designs from concept to release. High degree of computer literacy combined with broad technical knowledge of materials and manufacturing processes. Recognized for unique innovations and progressive ideas, and for the ability to "get the job done". Proven success at assessing customer needs, simulating and testing prototypes, and troubleshooting and repairing a variety of electro-mechanical systems.

MECHANICAL DESIGN SKILLS

- Extensive experience designing tools for die cast, injection molded, stamped and forged parts.
- Knowledgeable in hydraulic system design, power transmission, structural strength and failure analysis.
- Training and experience in advanced composite design and repair techniques including Kevlar, carbon fiber, glass, honeycomb, reinforced/filled polymers, and advanced aircraft composites.
- Practical experience managing design project tasks across organizational boundaries and supply streams including long lead-time items and manufacturing challenges.

COMPUTER SKILLS

Proficient in the use of Pro-Engineer; CADKEY; AutoCAD; ANSYS; Microsoft Word, Excel, and Project; Fluent (fluid flow software); Mathematica; Maple; and MATLAB

EDUCATION

Bachelor of Science, Mechanical Engineering, expected May 2006
Rochester Institute of Technology (RIT), Rochester, New York

Captain of RIT Solar Racing Team – Invented, designed, and built a two-speed, high efficiency drive train. Supervised composite body panel design, construction, and maintenance. Generated \$30,000 in donated funds, services, and materials. Led team of sixteen to a third place finish in the 1994 Tour de Sol solar race from New York City to Philadelphia.

PROFESSIONAL EXPERIENCE

Engineer/Tooling Designer

Stone Construction Equipment Inc., Honeoye, New York

2005 – 2006

Designed welding fixtures for the production of a variety of construction equipment. Created design documentation with Pro-Engineer. Assisted in production line setup, tool shakeout, and welder training.

- Produced simplified representations that were laminated and bound for welders to use in the shop.
- Found a better way to store tooling design information using Pro-Engineer that kept tooling information current with design changes in the product.
- Implemented production of equipment that offered catalytic exhaust scrubbers approved for indoor use.
- Investigated and resolved production problems related to weld process, hydraulic systems, and component packaging.

Engineer/Fabricator

Neighborhood Electric Vehicle Company, Eugene, Oregon

2001 – 2003

Responsible for reliability and safety of the Gizmo electric vehicle. Developed design documentation, assembly and welding fixtures for manufacturing of a variety of vehicle components, Ensured compliance with federal and state vehicle regulations. Fabricated, welded, assembled and tested new vehicles per customer specifications.

- Developed a complete design for the Gizmo, including complete bill of materials, cost, and vendor information.
- Developed standards for documenting vehicle design including wiring diagrams and assembly procedures.
- Implemented a new part numbering system with a standardized descriptive format and common hardware list, eliminating duplicate parts across product lines and streamlining the design process.
- Released to production a new drive system that totally eliminated chain noise and periodic maintenance.
- Helped convert a refrigerated shipping container into a large curing oven to create new composite molds as part of a military contract to provide F-117 parade vehicles for the Air Force.

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Design Drafter

Peterson Pacific Corporation, Eugene, Oregon

2001

Responsible for design, documentation, and shop support in the manufacture of grinding and chipping machinery for forest industries. Address production problems, prepare documentation for unique modifications.

- Developed a hydraulic system streamlined documentation system.
- Standardized drag chain tensioning system for 5 different products, simplifying manufacture.
- Solved compression roller shaft breakage and worked closely with vendor to ensure parts met print specifications.

Senior Product Designer

Leica Microsystems, Inc., Buffalo, New York

1995 - 2000

Responsible for product design, documentation, and release for manufacturing of a variety of educational microscopes, illumination systems, microscope accessories, and automatic refractometers. Addressed production problems, prepared prototypes for regulatory approval, and coordinated incoming material inspections.

- Developed a "Designers Manual" that included ISO 9000 procedures, standardized hardware list, and relevant procedures.
- Developed standards for creating and storing Pro-Engineer files, including a vault system to store and protect data used by nine Pro-Engineer designer/drafters.
- Implemented a new part numbering system with a standardized descriptive format and common hardware list, eliminating duplicate parts across product lines and streamlining the design process.
- Designed and implemented the overseas manufacture of a new line of educational microscopes. Created and maintained over 500 individual Pro-Engineer part and assembly drawings.
- Released for manufacturing an upgraded AR-600 refractometer. Invented a unique sample cover design that allowed the addition of a complete line of accessories to be easily attached, enhancing sales of the base unit and providing high profit margin on the accessories.

Research Assistant - Empire Power Research Institute

ROCHESTER INSTITUTE OF TECHNOLOGY, Rochester, New York

1993 - 1994

Developed and tested a scale replica of a power plant steam condenser system to determine accurate Reynolds data on various condenser tube material and designs. Responsible for maintenance and troubleshooting sensors, pumps, servo valves, and a water cooling system.

- Quadrupled data production by implementing streamlined startup/shutdown procedures and solving recurring problems.
- Reduced boiler maintenance by establishing a program of monitoring boiler water chemistry.

MILITARY SERVICE

U.S. Air Force 1985 - 1991

Sergeant / Wing Historian (1988 - 1991)

Responsible for preparing the biennial contemporary unit history for three Air Force units in Iceland, New Mexico, and Texas. Worked closely with senior staff to write a dynamic historical account of the units' mission and achievements.

Aircraft Machinist (1985 - 1988)

Performed fabrication, rework, and repair of metal and composite aircraft parts, ground turbine engine blades. Repaired defective aircraft structural components.

Military Honors:

Air Force Achievement Medal, Air Force Commendation Medal, Good Conduct Medal, Air Force Honor Guard, Advanced Promotion to Senior Airman

ADDITIONAL TRAINING

Pro-Engineer Assembly and Surface Training, Parametric Technology Corporation, 1998

Pro-Engineer Basic and Advanced Training, Parametric Technology Corporation, 1996

ISO 9000 Implementation Training, Price Waterhouse, 1996

Team Building and Leadership, Leica Microsystems, Inc., 1996

Non-Commissioned Officer Leadership School, 1990