

Ed Dowling
(928) 634-5846
edd@eddowling.com
Resume

I am a Mechanical Engineer/Cad Designer with a lot of experience in manufacturing. I have been doing mechanical design & drafting for 45 years - since 1963. I have a lot of experience in product design, and manufacturing in general. I started my own Engineering Consulting business in 1999 when I bought my own licensed "seat" of Solid Edge 3D solids Modeling and machine design software.

I am familiar with general product design and development, Research & Development, Engineering Documentation, UL Approval design, Cryogenics, High & Low Vacuum systems including Thin Film Deposition. Also Injection Molded part design, Pressure & Vacuum Forming, Sheet Metal design, Coatings & Platings, Factory Automation, Machine design including Linear Actuators, Optical & Proximity sensors & Controls, Basic PC Board Design & Schematics, Optics, Ultrasonics and various other processes & technologies required to perform the job functions listed below in my work history. I am highly motivated & care about what I do. I have 1 patented design and I also design and build leading edge guitars. Some of the devices & machines that I have designed are used by IBM, Motorola, Xerox and a number of other companies. My last major project was the encoder used on the BART trains in San Francisco – for Encoder Technologies.

Here is my work history:

2007 - Present: Self Employed as Ed Dowling Design: Continuing in my position as engineer/cad designer of encoders for the Dynapar Division of Danaher Corporation – a large multi-national corporation. Danaher/Dynapar acquired Encoder Technologies in 2007 and retained me as a designer of encoders. Encoder Tech encoders are considered to be among the best in the world and I helped with that.

2002 – 2007: Self Employed as Ed Dowling Design: Engineer and cad designer for Encoder Technology – a leader in state of the art circular and linear encoders. I brought state of the art 3D Solids Modeling based engineering to this firm and am the primary engineer and cad designer for the encoder used on the BART system. This encoder is the major control input device used to control the speed and direction of each BART train – an "electric" train system with 4 large electric motors on each "car" and an encoder on each motor. The quality and robustness of this encoder had made it a "sole source" item for the BART system.

2000 - 2002: Self Employed as Ed Dowling Design: Doing machine design as a consultant / contracting Mechanical Engineer for Bent River Machine where I designed Semi-conductor processing equipment - primarily for Motorola. During this period I designed a number of robotic gripper systems and a support system for a large semi-conductor processing cell. The support station includes a DI water System, 2 ea. 3 HP Vacuum Pumps, a 1500 watt Hot water system, a 1500 watt Hot Air System, a high volume secondary vacuum system, numerous pressure & vacuum sensors & electronics housing. I re-engineered the system as designed and made it actually work, radically improved its function, reduced its energy consumption and cost to manufacture by approximately 40%. I also noticeably improved its safety at the same time.

1995 - 2000 Chief Engineer - Bent River Machine - a high tech Motorola certified machine shop & Engineering Service. I designed various tooling & production equipment for 2 Divisions of Motorola including Automated Vision System design & integration, BGA Tooling Design, JEDEC Tray Handlers, Graphite Boat Loaders & various conveyor systems. I also designed a manual bench top fixture used by Unisys & others in conjunction with the Pentium Chip testing. I have designed various oven systems, handlers, Safety Enclosures, & Robotic Grippers for other factory automation customers. Some of my designs are currently running at companies like IBM, Xerox, etc...I routinely use PLC controllers, Servo & Stepper motors, Pneumatic & Vacuum Systems, Linear Actuators of all types & many other materials, processes & sub-systems used in Factory Automation - mostly in semi-conductor related manufacture.

1988 - 1995 Mechanical Engineer - Arizona Instrument Corp. AZI acquired Jerome Instruments & I became the AZI Mechanical Engineer. I worked in R&D designing various devices for the Computrac Moisture Analyzer product line & for the Soil Sentry & Encompass Product line of Motor Fuel Monitor Systems. I did the mechanical engineering for the Encompass Ultrasonic Level Probe & Wave guide System which involved perfecting a high power ultrasonic module & wave guide system to withstand immersion in various motor fuel storage tanks. I also re-designed another ultrasonic probe after the company experienced failures in the 2 preceding designs from another engineering company. I also designed a Patented Device - a Vent/Valve assembly that facilitated installation of monitoring equipment in existing storage tanks. I also managed the Engineering Documentation Dept & had from 2 people working for me. Most of these products were UL Listed - acquiring & and maintaining the UL Approvals was a part of my job.

1978-1988 Mechanical Designer - Jerome Instrument Corp. I designed Analytical Scientific Instrumentation including Mercury Vapor Analyzers & H₂S Analyzers. I worked as a part of the R&D team designing new products sold to the US Military & Fortune 500 Companies for Environmental Monitoring. My work included Thin Film Deposition Sensor design, instrument flow system & pump design, micro & macro calibration & sample gas systems, cryogenic piping, the use of various materials including polyimid, kynar, precious & high purity (999.99%) metals, facilities management, clean room design, plastic part, membrane switch, & label design. I also participated in engineering the various processes associated with this type of manufacturing. I pretty much learned manufacturing from the ground up including Shipping & Receiving, Sales, Production, Q/C, Inventory Control, etc.....

1976-1978 Town Planner & Zoning Administrator - Town Of Jerome. I administered Zoning Ordinance and was the primary author - in conjunction with the P&Z Commission - of the Comprehensive Plan for Jerome. Also Building Inspector - its a small town. I learned Land Use, Planning, Zoning & got a \$70,000 grant for the Town.

1970 - 1976 Self employed - Silversmith & Lapidary. I also repaired and built stringed instruments. I Learned sand casting, silver soldering, production techniques, and the general skills needed for musical instrument repair & building including finishes.

1967 - 1970 Design Draftsman - Contractor doing work for IBM in the NY area. I kept a few draftsmen busy as a part of doing Engineering Documentation for a number of IBM electro-mechanical production devices

1965 - 1967 Airborne Draftsman - US Army - 2 years as an "81A10 Airborne Draftsman" 18th Airborne Corps, Fort Bragg, NC. I made a lot of maps & charts for planning & presentation sessions and had a Top Secret Crypto security clearance. Sent to the Detroit Riots in 1967 as part of the initial military response. The 18th Airborne Corps is the Headquarters for the 82nd & 101st Airborne Divisions the primary strike force for the US military.

1964 - 1965 Detail Draftsman - Graphic Techniques - a job shop doing work for IBM - learned Precision Form Tolerancing, & produced high quality detail drawings & schematics to IBM drafting standards.

1963 - 1964 Draftsman - TP Trailer Corp. - I designed 40 foot long cargo trailers. Learned general design & detail drafting, weldment design & sheetmetal design.

