



# RESUME OF VERN D. GOODWIN, P.E.

## SUMMARY

Registered Mechanical Engineer with thirty-five years of experience as an engineer, machinist and assembly mechanic. Have designed and put into operation mining and construction machinery, inspection and test equipment, automated production machines, and materials handling devices. Fourteen years of design supervision to the level of Chief Design Engineer. Twenty-five years of experience as forensic engineering investigator.

## PROFESSIONAL EXPERIENCE

### **MDE Inc. – Seattle, WA (1982 to Present)**

President Emeritus and Principal (2005 to Present), President and Principal (2000 to 2005), Executive Vice President, Principal, and Chief Design Engineer (1995 to 2000), Vice President, Principal and Mechanical Engineer (1982 to 1995)

Design and prototype development of sophisticated computer-controlled fiber optic cable winding and testing machinery. Design and production of automated photographic film and print rolling machinery. Concept work on new methods of rapid underground excavation for the Department of Defense. Design and shop follow-up of production machine tooling for intricate aircraft engine parts. Design and build of computer controlled positioning devices.

Forensic engineering to include investigation, photography, documentation, engineering analysis, and accident reconstruction. Areas of investigation include: automobile, truck, motorcycle, pedestrian, bicycle and boat accidents; tire failures; industrial machine accidents; machine guarding issues; mechanical failure of industrial machinery, vehicles, hydraulic systems, water plumbing, furniture, hand tools, power tools; slip or trip and falls; walkway and stair code compliance; ladder and scaffold falls; lighting adequacy.

### **NORPAC Engineering, Inc. – Seattle, WA (1978 – 1982)**

Mechanical Engineer – Designed forest products machinery and automated drilling equipment. Designed units for testing new jet airliner components. Design of modifications to cranes, presses, furnaces, shears, and rolling mills. Design work on shaft drill for ICBM deep basing.

### **Ingersoll-Rand Company – Seattle, WA (1965 – 1978)**

Project Engineer, New Development – Responsibilities included design and evaluation of new accessory equipment for raise drilling machinery. Project Engineer, Booms and Feeds - Engineering responsibility for a product line of positioning booms and drill feeds for underground rock drilling. Design Engineer - Design of track and wheel-mounted undercarriages, positioning booms and manlifts. Design of diesel and air powered underground mining machines with extensive hydraulic systems. Machinist - Setup and operation of a variety of machines to include lathes, mills, grinders, and numerically controlled drilling machines. Assembly Mechanic - Assembly of large tunneling machines.

### **US Army (1966 – 1969)**

Topographic Surveyor

## PROFESSIONAL REGISTRATION & CERTIFICATION

Registered Professional Engineer, State of Washington, # 18274 (1979)  
Certified English XL Slipmeter Operator (ASTM VIT)

## EDUCATION & TRAINING

B.S. Mechanical Engineering, University of Washington (1974)  
2 week course "Traffic Accident Reconstruction", Northwestern University (1994)  
2 week course "Traffic Crash Reconstruction", IPTM, University of North Florida (2001)  
Numerous Seminars and Short Courses

## PROFESSIONAL ASSOCIATIONS

Member – American Society of Mechanical Engineers (ASME)  
Member – Society of Automotive Engineers (SAE)  
Member – American Society for Testing and Materials (ASTM)  
Member – ASTM Committee F13 on Safety and Traction for Footwear  
Member – Washington Association of Technical Accident Investigators (WATAI)  
Member – American Society of Safety Engineers (ASSE)

## PUBLICATIONS

Authored SAE technical paper #1999-01-0442; "Vehicle & Occupant Response in Low Speed car to Barrier Override Impacts", 1999.  
Contributed to paper "Do Initial Head Rotation or Head CG Distance Above Head Restraint Affect Head Kinematics in Response to A Rear-End Impact?" presented at SAE Whiplash Conference, Phoenix AZ, Nov 1998.  
Authored report submitted to the Naval Ocean Systems Center summarizing study results of a new method of winding fiber optic cable.  
Authored report submitted to the Ballistic Missile Office summarizing study results of methods by which underground tunneling machine reliability could be increased.  
Authored paper on Slip & Fall Testing presented at a Premises Liability Seminar sponsored by the Seattle-King County Bar Association, 1992.  
Contributed to paper presented at New Mexico Tech., Mining Equipment Selection Symposium, 1983.

## PATENTS

One U.S. Patent