

Edward G. Hohenberg P.Eng.
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Profile

Senior level mechanical/automotive engineer and instructor, well-versed in all facets of engineering and manufacturing, with particular expertise in the following areas:

- Project Management
- Testing and Analysis
- Mechanical Engineering Design
- 3D CAD Modelling (Unigraphics)
- Failure Analysis
- Research & Development
- Noise and Vibration Reduction
- Quality Function Deployment
- Metallurgy
- Technical Writing
- Education
- Auto Racing and Performance

Automotive Engineering Employment

Wolf Performance Engineering, December 2001 to present

President and Chief Engineer:

- Electronic Fuel Injection Performance Calibration and Tuning.
- High Performance Engine Building.
- Automotive Engineering Consulting Services.

Red River College, February 2006 to December 2006

Applied Research Project Leader for Tier 3 prototype Cummins ISM engine integration into MCI D4500 coach:

- Leadership and management of a team of student engineering technologists in engineering a prototype engine integration.
- Responsible for designs, drawings, budgets, testing/certification, project time lines, technical and progress reports, design reviews, personnel hiring, training, and appraisals.
- Coordination of engineering project with various college personnel, MCI personnel, MCI vendors, and RRC vendors.

Motor Coach Industries, October 1999 to September 2001

Project Engineer, Advanced Technologies, Reporting to Director of Product Planning:

- Research, testing, and development of relevant new technologies, such as low emission/high efficiency propulsion systems, noise reduction improvements, weight and cost reduction technologies, and added comfort and safety features.
- Responsible for all new and current coach specifications and performance targets.
- Implementation of new technology projects through engineering design, testing, production and sales and marketing.

Motor Coach Industries, May 1998 to October 1999

Leader, Vehicle Dynamics Engineering, Reporting to Director of Engineering:

- Leadership and management of a team of engineers, technologists and drafters overseeing frame and suspension engineering in intercity coaches.
- Responsible for designs, drawings, budgets, testing, project timelines, technical and progress reports, personnel training, appraisals and merit increases.
- Coordination of engineering projects with vendors, external customers and all internal company departments, including warranty, service, publications, customer order entry, tooling, production, sales, marketing and senior management.

Motor Coach Industries, November 1997 to May 1998

Project Testing Engineer:

- Optimization of vehicle ride and reduction of noise and vibration.
- Coordination of coach structural fatigue, ride and vibration, and fuel tank fatigue testing.

Motor Coach Industries, May 1994 to November 1997

Powertrain Development Engineer, Motor Coach Industries:

- Design/development of new Powertrain installations in intercity coaches.
- Testing and optimization of Powertrain installations and combinations.

Budd Canada Inc, Temro Division, March 1994 to May 1994

Product Development Technician

- Planning and supervision of an engine exhaust silencer test facility.
- Research and development of a super critical engine exhaust silencer.

Automotive Engineering Experience

Powertrain:

- engine/transmission selection/optimization
- electronic engine control system programming
- engine/transmission mounting system design
- engine accessory drive system design (patent awarded)
- powertrain packaging
- modular (interchangeable) powertrain system design
- cooling system design
- driveline design
- intake and exhaust system design
- exhaust silencer design
- fuel system design
- engine and powertrain testing
- emissions testing
- development of new engineering standards where required
- engine testing lab design
- race car powertrain design, development and testing

Structure and Suspension:

- ride, noise and vibration reduction testing
- ride and vibration design improvements
- noise reduction design improvements
- structural stiffening
- dynamic and modal analyses
- structure and suspension full vehicle accelerated endurance testing
- structural component bench accelerated endurance testing
- fuel tank design and fatigue testing
- trailer hitch and structural design modifications for highway coaches
- motorhome slideout design
- tire testing
- brake system design and testing
- steering system design and testing
- race car suspension design, development and testing

New Technologies Investigated, Tested, and/or Implemented:

- real time tire pressure sensor system, brake chamber stroke monitoring system, and on board axle weight measurement systems
- electronically dimming "smartglass"
- infrared night vision systems
- computer controlled fully automated high efficiency manual transmissions
- Diesel hybrid-electric drive systems
- compressed natural gas powertrains
- Bio-Diesel fuels

- fuel cell auxiliary power units and photo-voltaic auxiliary power units
- fuel cell powertrains
- hydrogen fuelled internal combustion engines
- gaseous fuel systems
- vehicle hydrogen storage systems and on board hydrogen generation systems
- advanced Diesel emission reduction systems
- Diesel exhaust catalysts
- Synthetic Diesel fuels
- Ultra low sulphur Diesel fuels
- electric driveline retarders
- combined front and rear steering systems
- heavy duty vehicle aerodynamics
- composite materials in non-traditional applications

Miscellaneous:

- new vehicle model specification development
- competitor vehicle benchmark testing and documentation
- vehicle cost, weight and component reduction projects
- preparation and submission of proposals for automotive research project funding opportunities
- project management of numerous automotive engineering projects
- automotive customer satisfaction surveys and data analysis
- component and systems failure analyses
- advanced powertrain Failure Modes and Effects Analysis
- supervision and assistance with, or "hands on" performance of automotive powertrain, structure and suspension prototyping
- vendor qualification
- tooling design and development
- automotive service doors design
- vehicle fire investigation
- vehicle accident investigations
- driver and service personnel training

Related Employment and Experience

Red River College, September 2001 to present

Instructor, Mechanical Engineering Technology Dept.:

- Development and instruction of courses including Math, Engineering Design, Materials, Metallurgy, Thermodynamics, and Advanced CAD (Unigraphics)
- Assessment and evaluation of student progress
- Applied research: Integration of Tier 3 Cummins ISM engine into a MCI D4500 coach

University of Manitoba, January 1994 to present

Level 2 Sessional Lecturer, Department of Mechanical and Industrial Engineering:

- Development and instruction of courses including Internal Combustion Engines and Automotive Engineering and Design
- Assessment and evaluation of student progress.
- Thesis advisor for automotive engineering related theses
- Formula SAE competition team technical advisor

University of Manitoba, September 1992 to March 1993

Research Associate, Department of Mechanical and Industrial Engineering:

- Acoustic Emissions Materials Testing

Self Employment, April 1992 to June 1992

Metallurgical Consulting:

- Metallurgical Engineering.
- Failure Analysis.

TransX Ltd, September 1989 to December 1989

Hazardous Goods and Systems Analyst:

- Introduction and implementation of WHMIS Legislation
- Monitoring of Waste and Transportation of Dangerous Goods regulations.
- Loss Prevention, including Workplace Safety and Health, and Fire Prevention.
- Implementation and management of Computerized Equipment Preventative Maintenance Program.
- Engineering Advice concerning design and modifications to TransX Equipment.

Education

Red River College, June 2002 to July 2003

Certificate in Adult Education

GPA: 4.5/4.5

University of Manitoba, January 1990 to February 1992

M.Sc., Mechanical Engineering (Materials Science)

GPA: 4.0/4.0

Thesis: "The Occurrence of Magnetic Particulate Residues in Vehicle Propane Tanks."

University of Manitoba, September 1983 to May 1987

B.Sc., Mechanical Engineering

GPA: 3.6/4.0

Dean's Honour List all 4 years.

Garden City Collegiate Institute, September 1979 to June 1982

Grade 12 High School Diploma

Average Marks 80%

Metal Shops Option

Additional Training

Complete Training List available on request.

Related Skills

Computer Software:

Unigraphics, Solid Edge, AutoCAD, Word Perfect, MS Word, Excel, MS Project, Netscape, Front Page, PowerPoint, Lotus, Quattro, Linux, Open Office, and many others.

Engineering Techniques:

FMEA, DFMA, QFD, Timeline Project Planning, Strategic Sourcing, Make vs. Buy, Controlled Convergence, Cause and Effect Analysis.

Computer Programming:

Fortran Watfor 77, Fortran Watfiv, Basic, Quick Basic, some C, some Pascal and some HTML.

Class 2A Driver's License, Manitoba

Awards

U.S. Patent 5683320: "Engine Assembly with Belt Drive to an Engine Accessory".

International Patent Pending: "Dynamic Inertial Structural Stiffening Linkage".

SDRC/Machine Design Magazine Concurrent Engineering Award winner 1997: "MCI Renaissance Coach Design."

4 NHRA National Performance Records (set Oct. '97, retired unbroken).

NHRA Stock Eliminator National Class Wins: 1990, 1997, 1998.

NHRA Super Stock Eliminator National Class Win: 2000.

Professional Development

Complete PD list available upon request.

Publications

"Pedal to the Metal - Or Not", High Performance Pontiac magazine, December 2007
"Ram Air on the Cheap", High Performance Pontiac magazine, August 2007
"Coming Through in the Clutch", Muscle Mustangs and Fast Fords magazine, May 2007
"Let There Be Light", High Performance Pontiac magazine, May 2007
"Inside The Black Box" Part III, Muscle Mustangs and Fast Fords magazine, January 2007
"Inside The Black Box" Part II, Muscle Mustangs and Fast Fords magazine, December 2006
"Inside The Black Box" Part I, Muscle Mustangs and Fast Fords magazine, November 2006
"Futura-Stang", Muscle Mustangs and Fast Fords magazine, November 2006
"Bang for the Bite: '03-'04 Cobra Bolt On Test", 5.0 Mustang and Super Fords magazine, May 2006
"A Dash of Renewal", High Performance Pontiac magazine, April 2006
"Cold Comfort", High Performance Pontiac magazine, March 2006
"Buried Cable", High Performance Pontiac magazine, July 2005
"Restoration Revolution", High Performance Pontiac magazine, February 2005
"Stop the Horror", High Performance Pontiac magazine, December 2004
"Heavy Metal Drums", High Performance Pontiac magazine, November 2004
"Engineering Formula", Popular Hot Rodding, January 2004
"Hot Rod Hackers", Muscle Mustangs and Fast Fords magazine, October 2002
"15 Years of Glory", Muscle Mustangs and Fast Fords magazine, March 2002 (contributor)
"Get Dense", Drag Racing USA magazine, December 2000.
"Hacking into the 11s", Muscle Mustangs and Fast Fords magazine, June 1998 (co-author)
"Bargain Basement ET Bashers", Muscle Mustangs and Fast Fords magazine, July 1997 (contributor)
"Going Slow with all the Trick Parts", Muscle Mustangs and Fast Fords magazine, March 1994
"Maximum Density", Muscle Mustangs and Fast Fords magazine, August 1993
"Quick Thinking", Muscle Mustangs and Fast Fords magazine, July 1992

Features

Muscle Mustangs and Fast Fords magazine: January 1999
Subject of Super Stock magazine editorial, January 1998
Muscle Mustangs and Fast Fords magazine, January 1998
Coach Talk, Spring 1998
Drag Racing USA magazine, July 2000
National Dragster, Featured Flyer, September 1995.
Super Ford magazine, November 1993
Street and Strip Cars, Spring 1988
Drag Sport Review, Volume 2, Issue 1
Drag Sport Review, Volume 1, Issue 1

Memberships

Association of Professional Engineers of Manitoba (P.Eng.)
Society of Automotive Engineers (on Governing Board)
ASM International
GTO Association of America
Pontiac Oakland Club International