

FORCON INTERNATIONAL

H. G. "HANK" SIMPSON JR., P.E.

SUMMARY

Mr. Simpson is a professional mechanical engineer with over 29 years of experience. Hank's vast experience and expertise also include, but are not limited to complex investigations and analysis in the following areas:

- Railcar design and construction
- Fatigue analysis
- Weld design and failure analysis
- Protective coatings
- Railcar braking system design and performance
- Workplace safety and OSHA regulations
- Confined space safety
- Castings and forgings
- Fork trucks
- Hydraulics and pneumatics
- Appliances
- Commercial Construction Methods and Procedures
- Stress analysis
- Bolted design and failure analysis
- Corrosion and corrosion fatigue
- Impact loads
- Equipment maintenance
- Lock-out Tag-out procedures
- Bearings and lubrication
- Motor vehicles
- Trailers
- Plumbing and piping
- Engineering documentation and standards

EDUCATION

Bachelor of Science in Mechanical Engineering - University of Virginia

REGISTRATIONS & CERTIFICATIONS

Registered Professional Engineer:

- North Carolina #032486
- Virginia #0402019465

INDUSTRY AFFILIATIONS

Thru the years Mr. Simpson, was assigned and worked with the below committees with the Association of American Railroads, while assisting on projects related to those areas:

- Wheels, Axles, Bearings, and Lubrication Committee
- Coupler and Draft Gear Committee
- Fatigue Task Force

CONTINUING EDUCATION

Courses and/or Certifications completed in the following:

- Autodesk Inventor and SolidWorks Computer Aided Design software.
- Classical and finite element stress analysis.

CAREER HISTORY

FORCON International – Mechanical Engineer

Providing forensic investigation and expert witness services as it relates to his fields of expertise.

RPFralin Inc., Roanoke, VA, - Construction Manager and Site Superintendent

A Commercial and residential real estate development and management company handling various commercial construction projects, primarily multi-family apartment buildings.

FORCON INTERNATIONAL

John C. Nordt Company, Roanoke, VA, - Director of Engineering & other engineering-related positions

Manufacturer of jewelry and specialty metal products.

Responsibilities included:

- Manufacturing engineering.
- Equipment and machinery design and development.
- Computer Aided Design oversight.
- Product design support.
- Facility and equipment maintenance.
- Selected production oversight.

TNC Engineering (now TNC Rail Engineering), Roanoke, VA - Director of Roanoke office

- Started successful and profitable branch office of TNC Engineering.
- Developed new rail car designs and modifications from concept to completion using state-of-the-art design, modeling, analysis, and CAD software.

Norfolk Southern Corporation, Roanoke, VA - Assistant Manager-Car

Managed a rail car construction, remanufacturing, and repair facility with more than 400 employees and an annual budget in excess of \$70 million.

Responsible for all facets of operation including:

- Production of up to 13 remanufactured freight cars per day as well as blacksmith, foundry, fabrication, paint, reclamation, and passenger car shops.
- Personnel.
- Safety and environmental.
- Facilities and equipment maintenance.
- Facility planning.

Norfolk Southern Corporation, Roanoke, VA - Assistant Manager Car Engineering & other engineering related positions

- Performed and directed engineering staff in development and management of rail car design, modification and maintenance projects.
- Directed company rail car welding training and quality assurance program.
- Represented Norfolk Southern on Association of American Railroads regulatory committees and department on strategic planning committees.
- Developed improved performance monitoring systems for key rail car components.
- Led team that developed new coal car design, of which more than 19,000 were built.
- Project manager for railcar remanufacturing programs that saved millions of dollars vs. acquisition of new equipment.
- Designed or redesigned dozens of components that reduced maintenance and production expense.