

Michael Kremer, P.E. – Managing Partner, Proof Engineering Co, LLC

Education:

Master of Science Mechanical Engineering, UNIVERSITY OF WISCONSIN
Bachelor of Science Mechanical Engineering, TVER TECHNICAL UNIVERSITY

Principal areas of professional practice:

Structural Dynamics, Structural Optimization, Vehicle Crashworthiness, Fatigue/Durability Prediction, Machine design, Finite Element Analysis, Mechanical Failure Analysis, Commercial Trucks & Trailers, Construction and Agricultural Equipment, Chassis, Body Structure, Power Train, Safety & Human Factors, Regulatory Compliance, Mobility Industry.

Engineering Experience:

- Structural optimization of automotive seat for Tier 1 supplier
- Solid propellant thermo-mechanical analysis
- Advanced composite impact absorbing materials
- DDAM analysis of ship deck mounted equipment
- Seismic design of a datacenter server rack
- Garage deck mounted solar tracker array design (multiple projects)
- PV solar tracker arrays (multiple projects)
- Missile structural analysis
- Design of three-wheeled vehicle composite body structure
- Design and compliance of two axis solar concentrator structure
- Leaning suspension quad vehicle development
- FMVSS compliance of wheelchair lift
- Mobility (handicapped) conversion of full size van per ADA guidelines
- Thermo-mechanical analysis of Stirling engine heater head
- Design of accelerated test program for engine components
- Redesign of semi-trailer floor sub-structure(s) for cost reduction and assembly
- Analysis of new generation FFE weapon
- VIP and FFPS seat development and weight optimization, H101 helicopter
- Thermo-mechanical analysis of an aircraft air slide gas generator propellant unit
- Vehicle blast protection kit evaluation
- Projectile ballistics modeling
- Optimization of die-cast components for television mounts
- Seismic analysis of an aggregate processing plant
- Solar concentrator structural analysis
- Motorcycle frame GVWR rating and durability evaluation
- Ambulance and fire truck paramedic seat development

- Analysis support for Army Phase I development program of crew safety restraints
- Low pressure drop hydraulic valve development
- Failure investigation/mitigation of C-17 flight attendant seat
- Ultrasonic weld simulation of a digitizer pen assembly
- Design of rear suspension/axle modifications, routings for A/C and heater systems, parking brake, exhaust and fuel system, of vehicle floor structure and suspension attachment brackets
- Mechanical design for GE 7FB gas turbine DLN combustors
- Durability and creep assessment of hot path components
- Structural analysis and design of components and systems such as truck frames, crushers, conveyors, shaking screens and feeders, steel support structures, bearings, springs, gears, rotating shafts and drives
- Mobile material processing plant integration

Work History:

2009-Present: Founder/Managing partner, Proof Engineering Co, Gilbert AZ

2004-2009 Sr. Engineer to Director Engineering

2003- 2004 Sr. Project Engineer, Vantage Mobility International, Phoenix AZ

2002-2003 Combustion Design Engineer, GE Power Systems, Greenville, SC

2001-2002 Sr. Engineer, XMS Equipment, Tempe, AZ

1997-2001 Project engineer, Lippmann- Milwaukee, Inc. Cudahy, WI

Professional affiliations/ licenses

American Society of Mechanical Engineers (ASME) member

Society of Automotive Engineers (SAE) member, AZ SAE Section Chairman 2009-2010

Licensed Mechanical Engineer (Arizona certificate No 41040)