

RYAN D. COOK, MS, PE



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Genesis Design Engineering LLC



Ryan@GenesisDesignEngineering.com

PROFESSIONAL EXPERIENCE

Professional Engineer (PE) License

Utah #362144-2202

2004 – Present

Browning Arms Company

Morgan, Utah

browning.com & winchesterguns.com

Senior Design & Analysis Engineer

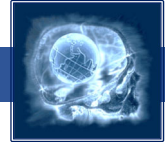
2019 – Present

- Designs new firearm products and new variations of existing models to expand the product lines. These development projects typically require from 2 to 6+ years to complete and transition to mass production, depending on the levels of differentiation and complexity involved.
 - The Winchester Wildcat rifle incorporates intellectual property of 4 new patents in the design.
- Investigates component failures as part of the new product development process. These investigations may include analysis in the following areas: metallurgy, fractography, material property testing, micro-strain testing, engineering stress calculations within custom spreadsheets, and Finite Element Analysis.
- Conducts forensic inspections, failure analysis and report documentation for product liability issues.
- Provides financial estimates for new product development projects, based on the individual component designs, manufacturing processes and materials.
- Supports intellectual property applications, prior art research, patent review and infringement analysis.

Mechanical Design Engineer

1999 – 2019

- Responsible for new product design and development from concept to production, including all major branches of Browning and Winchester firearm products - rifles, shotguns and pistols.
- Product portfolio includes the following major product families:
 - Browning 1911-380 & 1911-22 pistols, Browning T-Bolt rifles, Winchester Wildcat rifles, Winchester Model 9410 shotguns.
 - Additional development contributions to the Browning X-Bolt, X-Bolt II and AB3 rifles, Maxus and Maxus 2 shotguns, and the Buck Mark series of pistols.



Genesis Design Engineering LLC

Morgan, Utah

GenesisDesignEngineering.com

Owner and Principal Engineering Consultant

2007 – Present

- Provides engineering consulting services to more than 25 domestic and international clients.
 - Industries served include health care products, outdoor/sporting goods, personal fitness products, petroleum exploration, consumer electronics, circuit board enclosures, toys, children's products, household goods, and manufacturing hardware.
- Product development services include the following:
 - Concept creation and refinement, product styling sketches, CAD modeling, engineering calculations and analysis, prototype sourcing and/or creation and debugging, manufacturing/machining tooling or fixtures, transition of the design to production, graphic product marketing support and intellectual property application support.
- Provides expert witness support for pending litigation.
 - Inspection, research, analysis and documentation of failures to be analyzed in connection with possible product liability action.
 - Provides technical support for civil or criminal litigation, including engineering evaluations and expert report review.

Sporting Arms & Ammunition Manufacturers' Institute, Inc. (SAAMI)

Shelton, CT

saami.org

Joint Technical Committee,

2016 – Present

- SAAMI is an accredited standards developer for the American National Standards Institute (ANSI). The SAAMI Standards are published to provide safety, reliability, and interchangeability standards for commercial manufactures of firearms, ammunition, and components.
- The SAAMI Technical Committee frequently provides technical information to legislative and regulatory bodies across the US and around the world.
- Contributor in development of SAAMI Standard Z299.6-2025 *Voluntary Industry Performance Standards Criteria for Firearm Sound Suppressors for the Use of Commercial Manufacturers*.

Firearms Section Chair, JTC

2019 – 2025

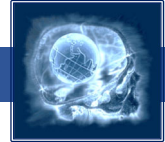
- Committee leadership team – conducting committee meetings, representing firearm-specific perspectives/issues, fostering clear communication and accurate documentation within the standards.

EDUCATION

Master of Science, Mechanical Engineering, Brigham Young University, Provo, Utah 2003

- Thesis: *Predictive-Refinement: A Method for Tuning Parametric Models to Achieve Product & Process Improvements*
- Graduate emphasis on CAD process optimization, structural analysis and manufacturing technologies.

Bachelor of Science, Mechanical Engineering, Brigham Young University, Provo, Utah 1998

CONTINUING PROFESSIONAL DEVELOPMENT

American Society of Mechanical Engineers [ASME] courses

- Creativity and Product Development – 2002
- Fracture Mechanics Approach to Life Prediction – 2006
- Geometric Dimensioning & Tolerancing (GD&T) Fundamentals and Assembly Stacks – 2007
- TRIZ - The Theory of Inventive Problem Solving – 2013
- Mechanical Tolerancing for Six Sigma – 2014
- The Engineering Manager: Engaging Today's Workforce – 2016
- Strategic Thinking – 2016
- Nanocomposite Technology and Its Impact on Engineering – 2017
- Marketing, Sales and Communications for Engineers – 2017
- Root Cause Analysis Fundamentals – 2017
- Effective Management of Research and Development Teams and Organizations – 2018
- Geometric Dimensioning & Tolerancing Fundamentals 1 – 2021
- Applications of GD&T and Tolerance Stacks – 2021

ASM International courses

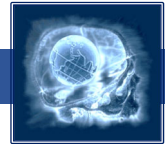
- How to Organize and Run a Failure Investigation – 2019
- Principles of Failure Analysis – 2019
- Heat Treatment, Microstructures and Performance of Steels – 2019
- Metallurgy for the Non-Metallurgist – 2019
- Practical Fractography – 2020, 2021
- Metallography for Failure Analysis – 2021
- Basics of Heat Treating – 2023

Mechanical Stress and Strain Analysis courses

- Non-Linear Analysis, COSMOS – 2001
- Structural Nonlinearities, COSMOS – 2003
- Strain Measuring Systems, Comprehensive Program, VPG Micro Measurements – 2019
- Mechanical Basic Structural Nonlinearities, ANSYS – 2019
- FEA Best Practices, ANSYS – 2019

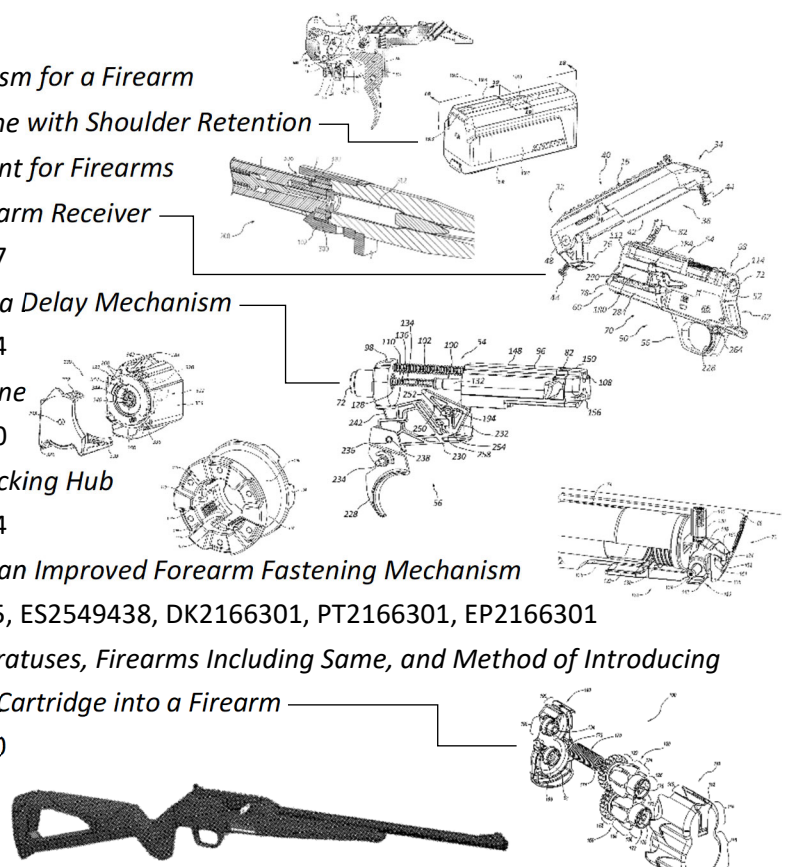
Other Professional Development courses

- Product Liability Workshop, Perkins Coie LLC – 2002
- Shooting Reconstruction, Forensic Pieces Inc. – 2022
- SAAMI Ballistics Conferences – 2022, 2024
- Injection Molding and Part Design courses, AIM Institute – 2024
- How to Write a Bulletproof Expert Witness Report, SEAK Inc. – 2026
- How to Be an Effective Expert Witness (at Deposition and Trial), SEAK Inc. – 2026



US & INTERNATIONAL PATENTS

- US 12,345,489 B2 *Trigger Mechanism for a Firearm*
- US 12,270,622 B1 *Firearm Magazine with Shoulder Retention*
- US 11,740,043 B1 *Gas Management for Firearms*
- US 11,614,292 B2 *Detachable Firearm Receiver*
 - Intl Reference: US20210318087
- US 10,921,078 B2 *Firearm Having a Delay Mechanism*
 - Intl Reference: US20200292264
- US 10,371,475 B2 *Firearm Magazine*
 - Intl Reference: US20180080730
- US 9,381,392 B2 *Weight Plate Locking Hub*
 - Intl Reference: US20160082304
- US 8,056,280 B2 *Firearm Having an Improved Forearm Fastening Mechanism*
 - Intl References: US20100071245, ES2549438, DK2166301, PT2166301, EP2166301
- US 7,806,036 B2 *Magazine Apparatuses, Firearms Including Same, and Method of Introducing an Ammunition Cartridge into a Firearm*
 - Intl Reference: US20070151440
- US D863,488 S *Rifle Weapon*



FEDERAL COURT – TRIAL TESTIMONY

United States v. Lawrence Rudolph, U.S. District Court – Denver, CO, Case No. 22-cr-00012-WJM-1

- Qualified under Federal Rule of Evidence 702 to provide expert opinion testimony in the fields of design, testing, history and functions of firearms.

PROFESSIONAL AWARDS

Shooting Industry Academy of Excellence 2001 Shotgun of the Year Award: Winchester Model 9410

PROFESSIONAL MEMBERSHIPS & OTHER AFFILIATIONS

- Member of Americal Society of Mechanical Engineers (ASME)***
- Member of ASM International***
- Lifetime Member of National Rifle Association (NRA)***
- Boy Scouts of America, Eagle Scout with 3 Eagle Palms***