



Michael “Troy” Richardson, BS, MA

Design Engineering • Manufacturing • Technical Writing • Expert Witness Services

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PROFESSIONAL PROFILE

Michael Troy Richardson is a design-engineering and manufacturing professional, technical writer, and subject-matter expert with more than four decades of hands-on experience in fabrication, construction, inspection, operation, training, and risk management. His work has focused heavily on amusement rides, devices, and attractions, including roller coasters, ziplines, aerial adventure courses, and trampoline courts.

He earned a Bachelor of Science Engineering degree in 2014 and a Master of Arts in Technical Writing in 2024, and he continues graduate study in *Engineering and Technology Management*. His academic coursework includes more than 30 credit hours in physics and engineering-related subjects, including biomechanics, strength of materials, mechanics, statics, and dynamics.

Since 2015, Mr. Richardson has been retained in plaintiff and defense matters involving design defects, operational failures, inadequate inspections, deficient training, maintenance issues, product liability, and standards compliance. To date, he reports investigating more than 150 amusement-ride and attraction incidents across 40 U.S. states, Canada, and Mexico, resulting in more than 110 expert engagements over the past decade.

CORE COMPETENCIES

- Design analysis, engineering analysis, and failure analysis
- Manufacturing, welding, machining, fabrication, and construction oversight
- Third-party audits, inspections, and operational assessments
- Inspection protocols, maintenance review, and documentation review
- Manufacturer-guideline analysis, standards interpretation, and regulatory compliance
- Staff training review, supervision analysis, and risk-management evaluation
- Technical writing, expert reports, discovery support, and standards rationales

PROFESSIONAL EXPERIENCE

M.I.T. Experts (Momentum Innovation Technologies), Founder and Principal — 2026 to Present

- Provides subject-matter expert witness services involving amusement rides, attractions, and related safety systems.
- Applies experience in design, fabrication, operation, inspection, and risk management to plaintiff and defense engagements.
- Performs design review, failure analysis, standards review, documentation analysis, and litigation support.

Momentum Engineering, LLC, Founder and Principal — 2015 to 2025

- Led product development, accident investigation, engineering analysis, and training related to aerial amusement systems and attraction safety.
- Supported operators, counsel, insurers, and other stakeholders with technical analysis and incident review.

A.A. Machining & Welding, Inc., Founder and Owner — 1995 to 2015

- Built and operated a licensed Utah steel-contractor business and National Board-certified boiler and pressure-vessel repair company.



- Managed fabrication, machining, welding, and repair work involving structural steel and specialty systems.

ASME-Certified Welder / Fabricator — Beginning in 1988

- Worked as a welder and fabricator in Springville, Utah, contributing to roller coaster fabrication early in his career.
- Built foundational expertise in welding, metal fabrication, manufacturing, and field installation.

EDUCATION

Graduate Study, Engineering and Technology Management	Ongoing graduate study: Product Processing Management, Six Sigma, Engineering Economics, ...
Master of Arts, Technical Writing	Utah Tech University, 2024
Bachelor of Science Design (CAD/CAM) Engineering	Southern Utah University, 2014
Physics / Engineering Coursework	More than 30 credit hours, including biomechanics, strength of materials, mechanics, statics, and dynamics

STANDARDS AND INDUSTRY SERVICE

Mr. Richardson has participated in standards development and standards voting within ASTM and related organizations. He has written rationales addressing ASTM F2970, the standard practice for trampoline courts, and has served for years in task-group and standards-related discussions involving ASTM F24 (Amusement Rides and Devices), ASTM F15 (Consumer Products), and other standard-generating bodies.

He reports ten years of service associated with ASTM F2959 for aerial adventure courses and continued contributions to ASTM F2970 since 2018. His standards work draws on both practical manufacturing experience and academic study, with a focus on safety, operations, inspection, training, and documentation.

CREDENTIALS, LEADERSHIP, AND PRESENTATIONS

- PRCA Certified Instructor (2026–2030)
- Former PRCA third-party inspector credential holder (2017–2020)
- Invited presenter at two international conferences in February 2026
- Contributor to standards discussions involving ASTM F2959 and ASTM F2970

SELECTED EXPERIENCE IN EXPERT AND TECHNICAL SERVICES

- Qualified third-party audits and inspections
- Design and manufacturing review for amusement rides and attractions
- Product-liability and incident-causation analysis
- Training-procedure and staff-supervision review
- Maintenance-program and inspection-documentation review
- Standards-compliance and regulatory-compliance evaluation

REPRESENTATIVE INDUSTRY BACKGROUND

Mr. Richardson’s practical experience spans roller coasters, ziplines, challenge courses, and trampoline facilities. He has also participated in the development of patented braking and safety technologies and reports more than six U.S. patents related to zipline braking and safety systems.

His career includes work as a machinist, welder, manufacturer, builder, designer, trainer, technical writer, and expert witness, giving him a cross-disciplinary perspective on how design decisions, field conditions, inspections, training, and management practices affect safety outcomes.



PROFESSIONAL AFFILIATIONS

- ASTM F24 — Amusement Rides & Devices—Committee participation since 2016
- ASTM F2959 — Task-group involvement
- ASTM F2970 — Standards involvement
- IAAPA — Industry membership
- PRCA / ANSI and ACCT / ANSI — Standards and professional participation

20 RECENT (110+) Trampoline Court (TC) EXPERT ENGAGEMENTS

Travis Hill	Arizona	ASTM F2970		TC	D	2024		SETTLED
Coast Law	California	ACCT & ASTM F24		Z	P	2024	Jared Krupa, ESI	On-going
	Florida	ASTM F2970		TC	P	2024		SETTLED
	Texas	ACCT & ASTM F25		Z	D	2024		SETTLED
Dolden Law	Alberta, Canada	ASTM F2970		TC	D	2025		SETTLED
Dget & Hill, PLLC	Arizona	ASTM F2970		TC	D	2025		SETTLED
O'Connor & Dget, P.C.	Arizona	ASTM F2970		TC	D	2025		SETTLED
CALLAHAN & BLAINE	California	ACCT & ASTM F24		CC	P	2025	Kinnerly, ESI Jon, Eric Marter	On-going
Charlesworth & Pompano Law I New Haven CT	Connecticut	ASTM F2970		TC	P	2025		On-going
Hickey Law Firm	Florida	ASTM F2970		TC	P	2025		On-going
Farris, Pitt, & Riley	Georgia	ASTM F2970		TC	P	2025		On-going
Burt & Payne, P.C.	Idaho	ASTM F2970		TC	P	2025		On-going
Abood Law Firm	Michigan	ASTM F2970		TC	P	2025		SETTLED
Morgan & Morgan	New Hampshire	ASTM F2970		TC	P	2025		On-going
Downey & Lenkov LLC	Illinois	ASTM F2969		TC	D	2026		On-going
Pending	Florida	ASTM F2970		TC	D	2026		On-going
Maderal, Byrne & Furst PLLC	Florida	ASTM F2970		TC	P	2026		On-going
Gogel Law Firm	Missouri	ASTM F2970		TC	D	2026		On-going
Morgan & Morgan (Garcia)	New Hampshire	ASTM F2970		TC	P	2026		On-going
Morgan & Morgan (Bannister)	New Hampshire	ASTM F2970		TC	P	2026		On-going
Stanley Law Group	South Carolina	ASTM F2970	Civil Action No.: 2024-CP-40-02097	TC	P	2026		On-going
Kemp Smith Teresa Christian	Texas	ASTM F2970		TC	P	2026		On-going
Parker & McConkie	Utah	ASTM F2970		TC	P	2026		On-going