

Matthew T. Kenner

PE

Principal, Vice President



Mr. Kenner is a Principal and Vice President for Engineering Systems Inc. (ESi). Mr. Kenner specializes in the documentation, investigation, and analysis of complex failures. His experience spans many industries, including marine, rail, automotive, aerospace, construction equipment, and consumer products.

Mr. Kenner is a mechanical and aeronautical engineer whose technical interests include applied mechanics, finite element analysis, fatigue, and fracture mechanics. In addition, he is a commercial pilot and flight instructor with extensive experience in the investigation and reconstruction of aircraft accidents.

Education

MS, Aeronautical Engineering. Ohio State University. 1995

BS, Mechanical Engineering. Case Western Reserve University (Summa Cum Laude). 1994

Licenses & Certifications

- State of Georgia P.E. License PE041650
- State of Illinois P.E. License 062-053702
- Commercial Pilot (Single-Engine Land, Multi-Engine Land, Instrument Airplane)
- Flight Instructor (Single-Engine Land, Multi-Engine Land, Instrument Airplane)

Positions Held

Engineering Systems Inc., Atlanta, Georgia

- Vice President, 2025 – Present
- Principal, 2023 – Present
- Senior Director, 2022 – 2025
- Senior Managing Consultant, 2015 – 2022
- Director of Aviation, 2018 – 2022
- Senior Consultant, 2001 – 2015
- Senior Staff Engineer, 1999 – 2001

Contact Information

mtkenner@engsys.com

(630) 851-4230

ESi Atlanta

420 Technology Parkway NW
Peachtree Corners, GA 30092

Areas of Specialization

- Aircraft Accident Reconstruction
- Applied Mechanics
- Engineering Failure Analysis
- Finite Element Analysis
- Fatigue and Fracture Analysis

- Staff Engineer, 1995 – 1999

Ohio State University, Columbus, Ohio

- Graduate Fellow, 1994 – 1995

Altair Engineering, Troy, Michigan

- Student Intern, 1992, 1993 & 1994

Continuing Education

- **Aircraft Propeller Accident Investigation Course** – Hartzell Propeller, 2024
- **Lycoming Engines Service School** – Pennsylvania College of Technology, 2019
- **Modeling Fracture and Failure with ABAQUS** – Simulia Central Region
- **Basic Aircraft Accident Investigation** – Transportation Safety Institute (U.S. DOT)
- **Flexible Multibody Systems with ABAQUS** – ABAQUS Midwest
- **Structural Integrity of New and Aging Metallic Aircraft** – UCLA
- **ABAQUS Contact Problems Made Easy** – AC Engineering
- **Strain Gage Technology Workshop** – Measurements Group, Inc.
- **Fracture and Fatigue Control in Structures** – University of Kansas
- **A First Course in Using ABAQUS Version 5.5** – AC Engineering

Professional Affiliations/Honors

ASTM International

- Member, Technical Committee F37, Light Sport Aircraft, 2007 – Present
- Member, Technical Committee F44, General Aviation, 2012 – Present
- Recording Secretary, Technical Committee F44, General Aviation, 2020 – 2025
- Sub Vice Chairman, F44.30, Structures, 2012 – 2022

International Society of Air Safety Investigators

- President, Great Lakes Regional Chapter, 2007 – 2012

Tau Beta Pi, National Engineering Honor Society

- Member

American Society of Mechanical Engineers

- Member

American Institute of Aeronautics and Astronautics

- Senior Member
- Member, Structures Technical Committee, 1998 – 2000
- Committee Secretary, 2000

Case Western Reserve University

- Recipient, Robert and Leona Garwin Award
- Recipient, Gustav Kuerti Award
- Presidential Scholar

Ohio State University

- Fellow
- Recipient, National Collegiate Engineering Award

Publications

- “Failure Analysis of an Aluminum Chiller Pipe by Experimental Simulation and Stress Analysis,” M.E. Stevenson, H.C. Iwand, J.L. McDougall, P.D. Umberger, J.A. Wilkinson, **M.T. Kenner**, and D.H. Stone, ASM International, Journal of Failure Analysis and Prevention, August 23, 2017.
- “Post-Fire Structural Integrity Evaluation of an Aircraft Utilizing ASTM E 1004-02,” J.L. McDougall, D.G. Klepacki, M.E. Stevenson, and **M.T. Kenner**, ASM Journal of Failure Analysis and Prevention, Vol. 15, No. 1, February 2015.
- “Evaluating Design Elements in Corrosion Failure Investigations,” M.E. Stevenson, **M.T. Kenner**, E.R. Weishaupt, M.L. Hanks, J.L. McDougall, M.D. Hayes, R.P. Baron, and J.A. Wilkinson, MS&T, 2013.
- “Step Ladder Failure Analysis: A Comparison of Analytical Methods,” **M.T. Kenner**, M.E. Stevenson, E.H. Knox, M.P. Van Bree, and J.A. Wilkinson, Proceedings of the ASME 2011 International Mechanical Engineering Congress & Exposition, November 2011.
- “Failure Analysis of a Commercial Brush Chipper Hood,” D.M. Norfleet, M.E. Stevenson, J.A. Wilkinson, **M.T. Kenner**, and D. Brickman, Journal of Failure Analysis and Prevention, ASM International, August 13, 2011.
- “Explosion Phenomena and Effects of Explosions on Structures III: Methods of Analysis (Explosion Damage to Structures) and Example Cases,” R. Pape, K.R. Mniszewski, A. Longinow, and **M.T. Kenner**, Practice Periodical on Structural Design and Construction, Vol. 15, No. 2, May 2010.
- “Structural Stepladder Failure: Analysis of Root Cause,” E.H. Knox, M.P. Van Bree, **M.T. Kenner**, J.A. Wilkinson, Proceedings of the ASME 2009 International Mechanical Engineering Conference and Exposition, November 2009.

“Analysis of a Hybrid Plate Girder Bridge During Erection: Collapse of Tennessee Highway 69 Bridge,” D.A. Wojnowski, A.W. Domel, J.A. Wilkinson, and **M.T. Kenner**, Progress in Structural Engineering and Materials, Vol. 4, No. 1, January–March 2002.

Presentations

“Anatomy of a Crane Collapse,” A. Barragry, C. Hiltgen, **M.T. Kenner**, and M. Weismuller, DRI Product Liability Conference, Denver, CO, February 7, 2024.

“Techniques in Aircraft Accident Reconstruction: Past, Present, and Future,” C.A. Fox and **M.T. Kenner**, DRI Product Liability Conference, Nashville, TN, August 19, 2021.

“Data at a Distance: The Art of Remote Inspections,” C.A. Fox, **M.T. Kenner**, and B. Powell, DRI, Virtual, April 9, 2020.

“The Use of Virtual Reality Technology in Aviation Accident Analysis and Reconstruction,” C.A. Fox, J.K. Lueck, S.L. Morris, R.C. Winn, and **M.T. Kenner**, SMU Air Law Symposium, Irvine, TX, March 28, 2019.

“Aviation Accident Reconstruction Using Virtual Reality and Other New Technologies,” C.A. Fox, J.K. Lueck, S.L. Morris, R.C. Winn, and **M.T. Kenner**, DRI Products Liability Conference, Austin, TX, February 6, 2019.

“Failure Analysis in Accident Investigation,” **M.T. Kenner**, Ohio State University, Columbus, OH, October 17, 2018.

“Investigative Use of Reverse Engineering Techniques: Application to Metallurgical Laboratory Analysis of an Aircraft Accident,” D.E. Alexander, R.R. Franzese, **M.T. Kenner**, A.V. Maratea, G.J. Novak, M.E. Stevenson, and J.A. Wagner, Materials Science & Technology Meeting, Columbus, OH, October 15, 2018.

“Opportunities in Standards Development,” **M.T. Kenner**, Georgia Crashworthiness Workshop for ASTM F44: General Aviation Aircraft, New Orleans, LA, October 10, 2017.

“Consensus Standards: Opportunities in Crashworthiness and Cabin Safety,” **M.T. Kenner**, 8th Triennial International Fire and Cabin Safety Research Conference, Atlantic City, NJ, October 26, 2016.

“Applications of Finite Element Analysis in Forensic Engineering,” J.A. Wilkinson and **M.T. Kenner**, ASME Fox Valley Section Chapter Meeting, Aurora, IL, November 16, 2011.

“Step Ladder Failure Analysis: A Comparison of Analytical Methods,” **M.T. Kenner**, M.E. Stevenson, E.H. Knox, M.P. Van Bree, and J.A. Wilkinson, ASME 2011 International Mechanical Engineering Congress & Exposition, Denver, CO, November 11–17, 2011.

“Tools and Techniques for Analyzing Structural Damage in Ladders,” M.A. Stevenson, **M.T. Kenner**, and J.A. Wilkinson, ASM International Annual Meeting, Houston, TX, October 2010.

“Structural Stepladder Failure: Analysis of Root Cause,” E.H. Knox, M.P. Van Bree, **M.T. Kenner**, J.A. Wilkinson, ASME 2009 International Mechanical Engineering Conference and Exposition, Lake Buena Vista, FL, November 2009.

- "Fundamentals of Failure Analysis: Two Examples from the Career of Charles R. Morin," J.A. Wilkinson and **M.T. Kenner**, MS&T 2009 Conference and Exhibition, Pittsburgh, PA, October 26, 2009.
- "Uses of Abaqus/Standard in Failure Analysis," **M.T. Kenner**, J.A. Wilkinson, M.E. Stevenson, and M.D. Hayes, SIMULIA Customer Conference, London, England, May 2009.
- "The Miller Park Crane Collapse: Analysis of the King Pin Failure," **M.T. Kenner**, J.A. Wilkinson, and C.R. Morin, ABAQUS 2004 Users' Conference, Boston, MA, May 2006.
- "The Miller Park Crane Collapse: Analysis of the Crane," J.A. Wilkinson, **M.T. Kenner**, and C.R. Morin, ABAQUS 2004 Users' Conference, Boston, MA, May 2006.
- "Effect of Boundary Conditions on the Modal Analysis of a Staircase," **M.T. Kenner**, J.A. Wilkinson, and C.R. Fischer, ABAQUS 2004 Users' Conference, Boston, MA, May 2004.
- "Stress Intensities for a Thumbnail-Shaped Surface Crack in a Solid Cylinder Using ABAQUS/Standard," J.A. Wilkinson, **M.T. Kenner**, and E.W. Holmes, ABAQUS 2004 Users' Conference, Boston, MA, May 2004.
- "Failure Analysis in Accident Investigation," **M.T. Kenner**, Experimental Aircraft Association Mid-East Regional Fly-In, Marion, OH, August 23, 2003.
- "Failure Analysis in Accident Investigation," **M.T. Kenner**, Aviation 532, Aviation Safety Investigation, Department of Aviation, Ohio State University, Columbus, OH, May 19, 2003.
- "The Miller Park Crane Accident: How to Avoid Making the Same Mistakes," C.R. Morin, J.A. Wilkinson, and **M.T. Kenner**, ASCE 2002 Civil Engineering Conference & Exposition, Washington, DC, November 6, 2002.
- "Analysis of a 100 ft. Aerial Ladder Collapse," **M.T. Kenner**, J.A. Wilkinson, C.R. Morin, and M.A. Kramer, ABAQUS 2002 Users' Conference, Newport, RI, May 2002.
- "Miller Park Crane Collapse: Root Cause Investigation," C.R. Morin, D.A. Wojnowski, R.C. Winn, J.A. Wilkinson, **M.T. Kenner**, S.J. Smith, and A.V. Kenner, Department of Civil and Environmental Engineering, University of Illinois Urbana-Champaign, Champaign, IL, March 2001.
- "Aircraft Design Forum," **M.T. Kenner**, Experimental Aircraft Association Mid-East Regional Fly-In, Marion, OH, September 2000.
- "Aircraft Design Forum," **M.T. Kenner**, Experimental Aircraft Association Mid-East Regional Fly-In, Marion, OH, September 1999.
- "Optimal Wing Design for Top-Fuel Dragsters," R.C. Winn, D.L. Kohlman, and **M.T. Kenner**, AIAA 1999 Aerospace Sciences Conference, Reno, NV, January 1999.
- "Aircraft Design: Why Does It Look Like That?" **M.T. Kenner**, Experimental Aircraft Association Mid-East Regional Fly-In, Marion, OH, September 1998.
- "Improving the Aerodynamics of Top Fuel Dragsters," R.C. Winn, D.L. Kohlman, and **M.T. Kenner**, 33rd Intersociety Energy Conversion Engineering Conference, Colorado Springs, CO, August 1998.
- "Aerodynamic Loading and Structural Response for Aircraft," V.H. Kenner and **M.T. Kenner**, Experimental Aircraft Association Mid-East Regional Fly-In, Marion, OH, September 1997.

"Propeller and Jet Aircraft Design," **M.T. Kenner**, Experimental Aircraft Association Mid-East Regional Fly-In, Marion, OH, September 1995.

"Turbojet Powered Sport Airplanes," G.M. Gregorek, **M.T. Kenner**, and D. Coburn, Experimental Aircraft Association Annual Meeting, Oshkosh, WI, August 1995.