



JACOB A. WAGNER, P.E.
SENIOR MANAGING CONSULTANT

jawagner@engsys.com

Mr. Wagner is a mechanical engineer with Engineering Systems Inc. (ESI). He has experience in failure investigation and analysis of railroad equipment, industrial equipment, structural products, vehicles, and utility infrastructure.

He specializes in both routine and custom testing for material or product evaluation, as part of root cause analysis or quality control. In addition, he has extensive experience in solid modeling, 3D-Laser scanning, reverse engineering, and fabrication.

Additionally, he has worked extensively with the rail industry to provide engineering expertise from work equipment design to AAR and AREMA testing. Mr. Wagner has a wide range of experience with both mechanical and engineering components, such as freight car trucks, air brakes, couplers as well as ties, track, and signal equipment. He has worked with equipment manufacturers to design new products and identify metallurgical and mechanical defects in existing products.

Other interests include electronic systems and control, machine design, and manufacturing technologies.

Areas of Specialization

Solid Modeling and 3D Laser Scanning
Reverse Engineering and Fabrication
Engineering Failure Analysis
Data Acquisition and Instrumented Testing
Accident Investigation
Derailment Cause Finding
Mechanical Testing
Laboratory and Industrial Testing
Non Destructive Testing and Inspection
Mechanical and Materials Design

Education

B.S., Mechanical Engineering, University of Nebraska-Lincoln, 2012
Passed F.E., May 2012
M.S., Mechanical Engineering, Georgia Institute of Technology, 2014

Licensed Professional Engineer (P.E.)

State of Nebraska, License No E-15896

Professional Affiliations/Honors

ASM International

Member

American Society of Mechanical Engineers (ASME)

Member

Positions Held

Engineering Systems Inc., Omaha, Nebraska

Senior Managing Consultant 2021 - Current

Senior Consultant 2018 - 2021

Senior Staff Consultant, 2017-2018

Staff Consultant, 2012 - 2017

Technician, 2010 - 2012

RSI Materials Engineering/Rail Sciences, Inc., Omaha, Nebraska

Technician, 2008 - 2010

Publications/Presentations

"Failure Analysis of Open End Wrenches Containing Forging Defects", ASM Journal of Failure Analysis and Prevention, (2010) 10:520-524