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JOSEPH F. ARRUDA, III
SENIOR CONSULTANT

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Mr. Joseph Arruda is a Senior Consultant for ESI, with over 23 years of experience in consulting, failure analysis, laboratory procedures, and testing. He has performed failure analysis investigations on mechanical, electrical, hydraulic, and pneumatic systems and components for recreational, commercial, and industrial vehicles, as well as light civil aircraft.

Mr. Arruda specializes in the maintenance of automotive and light civil aircraft systems, components, tires, and standard-of-care for automotive and aviation maintenance personnel and facilities. He has over 44 years of automotive experience, is a Master Automotive Technician, and is certified by the National Institute for Automotive Service Excellence (ASE). He also has more than 26 years of experience as a certified Federal Aviation Administration (FAA) Airframe and Powerplant Technician, and holds a current FAA Inspection Authorization.

Areas of Specialization

Vehicle Maintenance, Industry Practice, and Standard-of-Care
Vehicle System and Component Performance, Failure Analysis, and Testing
Post-Accident Vehicle Inspection and Documentation
Post-Repair Evaluation for Return to Pre-Accident Condition
Commercial Truck Brake Inspection
Vehicle CDR / EDR Imaging
Aircraft Repair, Maintenance, and Alteration
Aviation Maintenance Standard-of-Care and Industry Practice
Aircraft System and Component Performance, Failure Analysis, and Testing
Post-Accident Aircraft Inspection and Documentation

Education

Automotive

Southern California Regional Occupational Center (Automotive Maintenance, Power Mechanics)

Volvo of America - Master Technician Certification

Saab Scania - Master Technician Certification

Bosch Automotive Technical Training Classes (Fuel injection, Ignition & Charging and Electrical Systems)

Bendix Commercial Truck Products Training

Automotive Career Development Center UYV-43 (Hybrid and Electric Vehicle Training)

Bosch CDR Tool Technician Training (IPTM) 2018

Aviation

El Toro Marine Aero Club A&P Mechanic Apprenticeship

Teledyne Continental Motors Aviation Technician Advanced Training Program

Embry Riddle Aeronautical University (Professional Aeronautics)

Lycoming Engine Service School and Disassembly/Reassembly Courses

Continued Education

Human Factors in Traffic Crash Reconstruction (IPTM) 2017

Applied Vehicle Dynamics Course Precision Auto Research 2018

Greater Southwest Aviation Maintenance Technician Inspection Authorization (IA) Refresher Training 2020

Licenses and Certifications

ASE Master Automobile Technician A1 – A8, 1979 - Present
ASE L1 Advanced Engine Performance Specialist, 2016
ASE L3 Advanced Light Duty Hybrid/Electric Vehicle Specialist, 2016
Airframe & Powerplant Mechanic, License #: 3477791
Federal Aviation Administration (FAA) Inspection Authorization
Private Pilot (Single & Multi-engine Land), License #: 3477791
Sports Car Club of America SCCA Competition License
Certified Industrial Forklift Truck Operator

Professional Affiliations/Honors

Society of Automotive Engineers (SAE)
Member

Professional Aviation Maintenance Association (PAMA)
Member

Volvo International Service Technical Association
VISTA III Competition Finalist

Sports Car Club of America
Regional Class Champion 1979, 1980

Positions Held

Engineering Systems Inc., Irvine, California
Senior Consultant, Automotive & Aviation Maintenance, 2011 – Present

Exponent, Failure Analysis Associates, Irvine, California
Senior Associate March, 1997 – April 2011
Consultant – Specialized in automotive and aviation failure analysis related to tire installation, vehicle repair, and system and component maintenance. Analysis of forklift truck operation, preventative maintenance and repair.
Test Specialist – Artifact testing, failure analysis, evidence handling, storage, documentation, database maintenance and ASTM standards compliance.
Laboratory Technician – Artifact testing, laboratory facility and equipment maintenance, equipment calibration, and regulatory compliance.

Lenair Aviation, Inc., Santa Ana, California, John Wayne Airport
Airframe & Powerplant Mechanic, 1997 – 1998
Responsible for the maintenance of 15 single and multi-engine flight school aircraft.

Tustin Nissan Saab Alpha Romeo Maserati Buick Pontiac, Tustin, California
Master Automotive Service Technician / Advanced Diagnostician, 1996 – 1997
Performed new and used vehicle repair, with a focus on vehicles with complex system malfunctions and intermittent failures.

Mission Viejo Acura Saab, Mission Viejo, California
Master Automotive Service Technician / Lead Saab Technician, 1995 – 1996
Led the setup and operation of a Saab vehicle service department and provided oversight and direction for other Saab technicians.

Gotta Love Airplanes, Inc., Santa Ana, California, John Wayne Airport
Corporate Officer / Co-Owner / Operator, 1994 – 1999
Owned and operated a general aviation maintenance company specializing in maintenance, repair, and alteration of light civil reciprocating engine aircraft.

Tustin Nissan Saab Alpha Romeo Maserati Buick Pontiac, Tustin, California
Master Automobile Service Technician, 1994 – 1995
Responsible for new and used vehicle maintenance, repair, and reconditioning.

Brady's Foreign Car Repair, Laguna Niguel, California
Master Technician / Lead Technician, 1994
Performed general automotive maintenance and repair.

Viking Independent Auto Service, Laguna Hills, California
Master Automotive Service Technician, 1992 – 1994
Performed maintenance and repair of Saab and Volvo automobiles.

MCAS El Toro Marine Aero Club, El Toro, California
Apprentice Aviation Mechanic / Airframe and Powerplant Technician, 1991 – 1993
Performed repair, maintenance and alteration tasks on aviation systems and components.

Swedish / Asian Autoservice, Santa Ana, California
Master Automobile Technician / Lead Saab Technician, 1989 – 1992
Led the set up and operation of the newly developed Saab automobile service and maintenance department.

J&B Imports, Inc., Orange, California
President / Co-owner / Operator, 1982 – 1989
Owned and operated an independent import and domestic auto repair and restoration shop. Expanded the business to five full-time employees and two working partners.

Volvo of Riverside, Riverside, California
Master Technician, Shop Foreman, 1981 – 1982
Performed maintenance and repair of Volvo automobiles. Responsible for shop work quality and day-to-day operations of a new car dealer service department.

Orange County Volvo, Inc., Anaheim, California
Master Automotive Service Technician, 1976 – 1981
Responsible for the maintenance and repair of all vehicle systems, specialized in gasoline/diesel engine, automatic/manual transmission, drive axle maintenance, repair and overhaul. Managed preparation and competition driving of the Orange County Saab sponsored Saab racecar.

Kramer Motors Volvo, Inc., Santa Monica, California
General Automotive Technician / Line Technician, 1975 – 1976
Responsible for general powertrain maintenance and repair; specialized in automatic transmission repair and overhaul.

Publications/Presentations

Arruda J, Daws J, Auflick J., “Determination of the Standard of Care in the Tire Service Industry” International Tire Exhibition & Conference, (ITEC), September 2016.