DJS associates
Forensic Consulting, Technology & Animations

**ROBERT S. KINDER, JR., MS**
**Mechanical Engineer**

## OVERVIEW:

Robert Kinder graduated from Rutgers University with a BS in Mechanical Engineering. Robert has over 8 years of experience in automotive and motorcycle repair and modification. He utilizes the latest technology to investigate automotive / mechanical failures involving all types of vehicles including bicycles, motorcycles, passenger vehicles, tractor-trailers, and commercial vehicles.

Robert Kinder is an accomplished motorcycle enthusiast with experience in custom motorcycle design, modification, and fabrication. He has advanced motorcycle riding skills both on and off the roadway and has participated in skilled automotive events including drifting and drag racing. Automotive projects include performance tuning/testing; fabrication of components; electrical and mechanical troubleshooting.

## EDUCATION:

Drexel University, Philadelphia, PA
Master of Science in Engineering Technology 2018

Rutgers University, New Brunswick, NJ
Bachelor of Science in Mechanical Engineering 2014

## CONTINUING EDUCATION:

Berla iVe Vehicle System (Infotianment & Telematics) Forensics, Annapolis, MD, Jan. 2018
Event Data Recorder Use in Traffic Crash Reconstruction- Update, Abington PA, October 2016
Accessing and Interpreting Heavy Vehicle Event Data Recorders, SAE International, May 2016
Traffic Crash Reconstruction 2, Northwestern University Center for Public Safety, May 2016
Traffic Crash Reconstruction 1, Northwestern University Center for Public Safety, April 2016
National Association State Motorcycle Safe Administrators National Symposium, October 2015
Traffic Crash Investigation (2), Northwestern University Center for Public Safety, Sept. 2015
Comprehensive Air Brake Systems Training Program, Bendix, June 2015
Bosch CDR Data Analyst Course, Collision Safety Institute, June 2015
Traffic Crash Investigation 1, Northwestern University Center for Public Safety, June 2015
Bosch CDR Technician Certification Levels 1 & 2, Collision Safety Institute, May 2015

**CERTIFICATIONS:**

Licensed Remote Pilot, Small Unmanned Aircraft System (Drone)
Motorcycle Safety Foundation (MSF) Rider Coach National Certification
Pennsylvania Motorcycle Safety Program (PA MSP) Certified Instructor
Crash Data Retrieval (CDR) Technician and System Operator
Comprehensive Air Brake Systems Certification
Pennsylvania Licensed Safety Inspection Mechanic: Passenger Vehicles, Trucks over 17,000 Pounds and Trailers over 10,000 Pounds, Buses and Motorcycles
Shimano T.E.C. Certified Technician: Hydraulic Disk Brakes, Wheel / Hub, SPD/SPD-SL Pedal

**PROFESSIONAL EXPERIENCE:**

**May 2015 - Present** **Mechanical Engineer, DJS Associates, Inc., Abington, PA**
Responsibilities Include: Vehicular Inspections including Cars, Trucks, Trailers and Motorcycles; Retrieval and Analysis of Information from Commercial, Passenger Vehicle and Motorcycle Event Data Recorders and Global Positioning Devices; 3D Survey for Vehicle Documentation; Engineering Analysis of Vehicle Components and Systems for Failure Cause, Origin and Resulting Effects

**October 2014 – April 2015** **Mechanical Engineer, Dialight**, **Farmingdale, NJ**
Responsibilities Included: Design injection molded, machined, fabricated, optoelectronics including panel mount circuit board indicators and light pipes; create and maintain bill of materials, ECOs, and deviations; troubleshoot manufacturing or design issues; create/maintain 3D CAD models and engineering drawings; conceptualize and fabricate prototypes; utilize rapid prototyping methods; manage projects and timelines; interface with suppliers for various parts and materials; solve manufacturing problems; setup manufacturing equipment and processes; and, interact with customers directly to solve unique problems

**May 2013 – Sept. 2013** **Vibration Technician, Vibration Associates Preventech LLC**, Middletown, NJ
Responsibilities Included: Utilize vibration analysis on machinery to monitor and assess performance; align motors and shafts with laser alignment system, balance rotating equipment. Sites include power plants, water filtration facilities, airports, indoor skydiving facilities, hospitals, academic universities

**BICYCLE / MOTORCYCLE / OFF-ROAD EXPERIENCE:**

**Bicycle/Skateboard/Scooter Mechanic,** 2007 – 2010
SC Action Sports, Howell, NJ

- Assembled and repaired bikes (road, mountain, BMX), scooters (gas and electric), and skateboards
- Built custom bicycles
- Performed functional testing of wheels, brakes, suspensions
- Maintained repair tools and equipment and tested bikes prior to purchase

**Professional BMX Rider,** 2006 – 2008

- Performed BMX stunt shows at various events and venues including NASCAR, Disney Boardwalk, and MGM Studios
- Executed tricks including back flips, front flips, and 360 degree rotations

**BMX Instructor,** 2006 – 2007
The Incline Club, Lakewood, NJ

- Instructed students on tricks and maneuvers, safe skate park riding, proper riding form
- Conducted demonstrations and hands-on training

**National Bike League (NBL) BMX Racing,** 1995 – 1999

- Raced bicycles on single-lap off-road tracks with rollers, berms, jumps, and other obstacles

**AUTOMOTIVE AND MOTORCYCLE AFTER MARKET INSTALLATIONS:**

**Automotive:**

- Remote Start: Integrate remote start into factory wiring. Mount receiver and control module. Program remote start transmitters.

- Back-Up Camera: Route electronic wiring and make proper connections. Install camera to rear of vehicle. Ensure operational compliance with manufacturer specifications.

- Audio System: Radio, Door speakers, Tweeters, Subwoofer, Amplifiers, Sound Dampening Material. Design/build custom speaker mounting plates. Wire electronic equipment to amplifiers. Tune system using time/distance analysis.

- Head Unit: Install custom radio/head unit. Make proper electrical connections to factory wiring harness.

- Trailer Hitch Receiver and Wiring Harness: Mount receiver bracket. Connect wiring harness to brake lights, turn signals, and running lights.

- Cruise Control, Power Door Locks, Salt Spreader: Install actuator for cruise control function. Wire and install custom door lock motors. Mount salt spreader and wire to battery and controller.

- Turbocharger Timer: Wire timer into factory ignition system to provide turbocharger cool-down period.

**Motorcycles**

- L.E.D. Taillight, Turn Signals, License Plate Bracket/Light: Wire and mount L.E.D. lights and turn signal relays. Design/Weld/Fabricate custom license plate bracket with light.
- Handlebars and Mirrors

**PROJECTS:**

**Auto-Leveling Suspension (Cadillac CTS-V),** July 2014
- Designed and created brackets for sensors and modules
- Installed air bags, air compressor, and routed wiring
- Programmed different modes for driving, parking, and steep inclines

**Custom Turbo Setup (Mitsubishi Lancer)**, June 2013
- Fabricated/welded turbo manifold, battery case, intercooler piping
- Installed/tuned methanol injection system
- Car produced over 500 WHP and completed ¼ mile in 11.5 seconds

**Portable Human Powered Generator,** Sept. 2013 – Apr. 2014
- Designed and fabricated hand crank generator under 1.3 lbs with USB and 12V output
- Utilized 3D plastic printing
- Performance tested finished product and charged multiple devices

**Accelerometer Bracket/Extender**, January 2013
- Designed and fabricated adjustable accelerometer mounting fixture for marine application
- Enabled for readings on ship machinery otherwise unobtainable
- Achieved lightweight, corrosion resistant, and quick connect design

**ADDITIONAL PROJECTS:**

**Automotive:**

- Engine Replacement: Disconnect electronics and wiring. Separate engine from transmission. Safely remove damaged engine. Install new engine and reconnect electronics and transmission.
- Differential Rebuild: Remove end of life bearings and press new bearing into casing. Install new gears and adjust to ensure proper wear pattern.
- Suspension: Replace strut assembly. Remove coil spring and install on new strut.

**Motorcycle:**

- Engine Rebuild/Replacement: Replace worn piston and rings. Hone cylinder bore. Adjust gap between camshaft and valves.
- Drivetrain Components: Install sprockets, gears, rollers, and chains.
- Suspension System: Shock replacement and adjustment. Weld new mounting tab.

**MEMBERSHIPS:**

Motorcycle Industry Professionals
National Association of State Safety Administrators (SMSA)
Society of Automotive Engineers

**PRESENTATIONS:**

"EDRs, Telematics and Infotainment: What Technology is Telling You", Prominent Law Firm, King of Prussia, PA May 2018

"Correlation of "Non-Zero" Speedometer Readings with EDR Data", SAE International World Congress Experience, Detroit, MI, April 2018

"EDRs, Telematics and Infotainment: What Technology is Telling You", PA Insurance Fraud Conference, Pocono, PA, April 2018

"Accuracy of the DriveCam Event Data Recorder", 2017 Joint Annual Conference hosted by NATARI, Glassboro, NJ, August 2017

"The Role of Physics in Collision Reconstruction", AP Physics Class, Abington High School, Abington, PA, May 2017

"Event Data to Autonomous Vehicle Technology- Where we are… Where we're Going", National Association of Subrogation Professionals Webinar, Abington, PA, April 2017

"Black Box Technology: Automobiles, Busses, Trucks & Trains", 2017 Boardwalk Seminar, Atlantic City, NJ, April 2017

"Where are you and What are you doing: Automotive and Truck Electronic Data "Black Box" and GPS Technology", Philadelphia University, Philadelphia, PA, March 2017

"Things Keep Changing: Update on Automotive and Truck Electronic Data, "Black Box" and GPS Technology", Central Jersey Claims Association, Hamilton, NJ, March 2017

"Scene and Vehicle Investigation and Documentation", Advanced Disposal, Carlisle, PA, September 2016

"Inspecting and Preserving the Vehicle and Inspection Data Post Accident", Pennsylvania Law Firm, July 2016

"Event Data to Autonomous Vehicle Technologies: Where we are, Where we're Going", NJ Boardwalk Seminar, Atlantic City, NJ, April 2016

"State-of-the-Art Technology for Site and Vehicle Inspections", Philadelphia University, Philadelphia, PA, March 2016

"Event Data to Autonomous Vehicle Technologies: Where we are, Where we're Going", Pennsylvania Auto Crime Investigator's Association, Philadelphia, PA, February 2016

**PUBLICATIONS:**

Yannaccone, J. R. and Kinder, R. S., "Correlation of "Non-Zero" Speedometer Readings with EDR Data", SAE International 2018-01-0522, April 2018.

**AWARDS:**

**Outstanding Fabrication Achievement "Portable Generator"** May 2014
Rutgers Mechanical and Aerospace Engineering Industrial Advisory Board

**Passed Fundamentals of Engineering (FE) Exam**, August 2014