



Friday, June 9th

Technical Training

Network Nightmares: Solving the Diagnostic Distress

A real-world, hands-on approach to successful and productive network diagnostics

Gary Smith and Adam Robertson Note: FULL 8-Hour DAY CLASS

There is no doubt that data communications and network issues are amongst the most difficult, time consuming and costly diagnostics that we encounter. Factory scan tools offer expanded testing techniques that are manufacturer specific, but even those dedicated software platforms are not enough to accurately diagnose these problems in many cases. Network problems fall into several categories: Codes and multiple communication DTCs, module errors, vehicle wiring and component faults, intermittent ugliness and more. This class is designed to provide the attendee with unique diagnostic strategies and new approaches toward network and communication issues. In this class, we share the road maps that we have learned and developed over many years of study and application.

Topics will include:

Network Theory, Configuration and Components

Construction and Theory of Operation of the Various Sections of CAN we Analyze in the Physical Layer

- Single and dual wire, ethernet, fiber optic, wireless and the rules that make them work.
- Network “wake-up” strategies and wakeup waveform analysis.
- How the protocol language (actually) means something to us in the waveform.
- The terminated network bus lines and diagnosing this quickly and accurately.

Learn the Physical Rules that Makes any Network Function, Waveform Interpretation and Analysis:

Vehicle communications networks are simply radios, broadcasting and receiving via a balanced antenna (The twisted pair bus lines). Learn how viewing and testing communications faults by segregating the circuit into transceiver and antenna can help demystify the technology and help you target your next step accurately.

Blend the theory parts (Predictable and provable by Physical Laws) with actual waveform analysis and connect the dots in your approach and on-car strategy for network diagnostics. Terminated bus lines and the CAN node’s operation are covered and how this directly relates to useful interpretation of your scope waveform analysis. Knowledge is power.

- Waveform interpretation, serial decoding, math channels, XY views, masks, alarms and more
- Each topic will be backed up with real case studies to re-enforce the strategies used.
- Network topology designs and their operational strategies
- Learn unique applications of scan tools and lab scope together, our diagnostic “tips ‘n tricks!

Friday, June 9th *continued*

Management, Service Advisor & Marketing Training

The Art of Final Quality Control - Craig O'Neill

A successful client journey is realized the moment your client returns to your shop for service. This, however, is not true if it has been less than five minutes after your client picked up their keys! We ask how many vehicles are leaving your shop with problems? How many problems are you catching before they leave?

This course is for anyone that has ever suffered or wishes to prevent the consequences of a process failure that results in an unsatisfied customer... or worse.

None of us are perfect. This means we must have systems in place to manage imperfections.

Only then can we say to our clients, "we won't let you down."

With case studies from both outside and within our industry, attendees will learn strategies to analyze cause and effect, how to manage quality in each phase of a visit using technology, and communication techniques to ensure your clients are properly prepared for the next visit.

The Ultimate Marketing Road Map - Joe Flammer

Know you need to do marketing, but not sure what or when to do it? Wish you had a plan, but feel overwhelmed just thinking about it? Do you currently feel like you're doing "spray and pray" marketing and you aren't sure if what you're doing is really working? Join Joe Flammer, Business Development Manager of Turnkey Marketing, as he peels back the curtain and reveals exactly how the Turnkey team has helped hundreds of repair shops catapult car count by creating and executing smart marketing plans. Learn how to plan your marketing, what needs to be on your plan, how to execute it so that nothing slips through the cracks, and how to measure results so you don't waste money. Get ready for an engaging session that will help get your phones ringing!

Millennials Perspective: What I Want from My Job - Sara Fraser

Sara will share the challenges many employers face with providing leadership, communication, interaction, and engagement with Millennial employees.

Millennials think and operate differently than previous generations. Learn what you can do to meet their needs and provide an environment for success. It will bring out their best work and keep them with you. Also, learn what turns them off, what employers do to drive them to jump ship from your company.

Millennials and the younger generation "Gen Z" have developed their own criteria on who they are willing to work for and work with. To be "that company" you must recognize and embrace their amazing talent, ability to multi-task and connect with people on a different level. Provide the culture and environment they seek and become the employer of choice.



Saturday, June 10th (9:15 am to 12:30 pm)

Technical Training

Combustion, Carbon and Carnage: Diagnosing Fuel and Oil Related Drivability Concerns - Gary Smith

NOTE: This in-demand class sold out with 230+ in attendance at the last presentation.

Diagnosing the TOUGH Ones: Ghost Misfires, VVT Issues, P0420 Cat Codes, Lean Codes, Hard Misfires...

Learn to Leverage Scanner Data and Lab Scope Waveform Analysis Techniques to Identify and Correct Deposit Related Drivability Conditions.

Learn Mechanical, VVT and Rationality Diagnostic Techniques Using Your Lab Scope.

This class looks at how fuel and oil depositing play a MAJOR role in getting the diagnosis RIGHT THE FIRST TIME on these modern close tolerance, fast-fuel control GDI vehicles.

This is an eye-opening class for techs, advisors, and shop owners alike, and covers critical diagnostic methodology and knowledge that the OEMs are NOT teaching today... Learn how adding this strategy to your diagnostics saves time, unnecessary parts replacement and LESS **A MUST-SEE CLASS in these times!**

Hybrid & Electric Vehicle Service: An Introduction - Adam Robertson

Technicians may find themselves at a disadvantage when faced with new and ever-changing vehicle technology without the foundational knowledge of hybrid and electric vehicles. Some technicians are uncertain of the safety hazards that may exist during repair. This course explains the most current safety regulations, tools, and procedures of servicing hybrid vehicles.

Topics include:

Identifying hybrid vehicle configurations

Understanding electric vehicle charging classifications

Proper safety practices and vehicle safety systems

Interlock circuit operation

Analysis of high-voltage relay operation

High-voltage batteries and predicting failures using test equipment or scan data

The need for high-voltage battery maintenance and corrective procedures

General Motors Stop-Start Technologies - Tom Smith

General Motors introduced the first Stop-Start system on the 2014 Chevy Malibu as standard equipment and now have over 21 models using Stop-Start technologies. Implementing automated stop-start technology in today's vehicles is a cost-effective way to improve fuel economy and reduce emissions. A Stop-Start system operates by shutting off the engine when the vehicle comes to a complete standstill, and automatically restarts the engine when the driver releases the brake pedal. This operating strategy is often utilized in full hybrid- electric vehicles that have powerful electric systems but are also becoming more popular in non-hybrid vehicles that use traditional starter/battery configurations.

Topics include:

- Dual battery and control methods used to isolate the electrical systems during Autostop/Start
 - Robust starter motor technologies-Dual Tandem Starter design and operation
 - Capacitor and DC-DC (Transformer) Control Stop-Start systems
 - Common components found on each system
 - Stop-Start input and output control logic
 - DTC descriptors and scan tool diagnostic evaluation methods
 - Important best service practices to handle working on GM vehicles equipped with Stop-Start systems.
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Advanced Electrical Diagnostics with Intro to Lab Scopes – Tom Finneran

Prerequisites: Basic knowledge of electrical circuits and multimeters. Today's vehicles contain over a mile of electrical wiring, dozens of electronic modules communicating on multiple data busses and millions of lines of software code. Are you comfortable with your level of electronic diagnostic skills? In this course we'll cover advanced electrical / electronic circuit diagnosis on a variety of topics ranging from:

- Advanced Sensor Diagnostics
 - EMI / RFI Common Problems and Solutions
 - Introduction to lab scope set ups, connections, voltage, and current waveform analysis.
 - Serial Data (CAN) Diagnostic Update
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Saturday, June 10th (9:15 am to 12:30 pm) *continued*

Management, Service Advisor & Marketing Training

A to Z Service Advisor – Chris Cotton

- Role of the Service Advisor
 - Daily Responsibilities
 - Phone Answering Process
 - Scheduling for Success
 - Technician Productivity
 - Building Relationships with Customers
 - Effective Communication
 - Managing Expectations
 - Using Technology
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PROFESSIONALISM - Maylan Newton

What is professionalism? And why does it matter? How can you be completely professional with your day-to-day actions? In this class, we'll explore all these questions so that you can present a professional image in all that you do!

The Problem Solver - How to Build a Team Culture where Problems Stay Solved - Jimmy Alauria

Being an executive in the modern auto repair shop requires a lot of skills in how to motivate and inspire employees to buy into a culture of solving problems both organizationally and on the vehicle problems we are paid to fix. This seminar teaches owners and managers the three types of employees they need to know to build a team that solves problems and keeps them solved.

Customers for Life - Customer Communication On-Demand - Jimmy Lea

What would you give to be the first person your customer calls when they need assistance with their vehicle? Automate your retention efforts by leveraging your different campaigns to gain the greatest return on investment (ROI). Stack your communication efforts to gain customer confidence and Top of Mind Awareness

- Email
- Texting
- Web Chat
- Phone Calls



Saturday, June 10th (2:00 pm to 5:15 pm)

Technical Training

Pulse Width Modulation and 3-Phase Controls: Diagnosing Pulse Width Modulation for Power, Control and Sensing Circuits - Gary Smith *Note: This is NOT a Hybrid/EV class!*

In this class, we will discuss Pulse Width Modulation (PWM) theory and specifically how it applies to various automotive systems. The class will flow theory to scanner and scope analysis during diagnosis of several recent case studies.

- What is Pulse Width Modulation and How Does It Work? Concepts and Theory
- Understand the differences in use and applications of PWM in power, control and Sensing circuits in BMW and other European vehicle platforms.
- Brief explanation of PWM motor encoding for sensing and motor control applications.
- Introduction to BMW Valvetronic Motor and DME Driver Analysis, 3-phase Motors
- Introduction to 3-Phase AC/DC (Non-ground) Fuel Pumps and Controls in BMW Vehicles

Who should attend?

Anyone seeking a deeper understanding of the concepts of PWM motor control, AC current flow and motor controls from DC drivers. Also, those who seek to understand their scanner and scope data in these systems beyond just viewing the analog signals.

AC current is in play in multiple modern automotive sub-systems and of course is the main motivator behind hybrid and EV platforms. See how AC is managed in a DC digital world and how it affects your diagnostics.

Air Conditioning Section 609 Discussion and Certification – Pam Oaks

This course will prepare technicians for the EPA 609 test.

If you want to keep your customers cold during the A/C season don't be 'left out in the cold' due to a lack of governmentally required A/C service credentials. According to the United States EPA (Environmental Protection Agency) professional auto repair technicians are required to be certified in air conditioning systems to service A/C systems in the service bay or purchase refrigerant containers over 2 lbs. The federal law states that "any person who repairs or services a motor vehicle air conditioning (MVAC) system for consideration (payment or bartering) must be properly trained and certified under section 609 of the Clean Air Act by an EPA-approved program. All technicians servicing MVAC-like appliances must be certified."

This HVAC class covers intermediate to advanced content (including an intro to electrified vehicle heat pumps).

After the class, the EPA pre-exam will be given. This PPT is approximately 20-minutes. Then the EPA 609 30-minute exam will be given.

Those who already have their 609 will not need to stay or retake the exams. For those staying for the test - in English and Spanish - the exam is \$25 each; paid at the time of the class/test.

The tests will be sent to MACS where they will be graded. MACS will generate the 609 certificates and mail them to those who have passed the test. It is extremely rare for a technician not to pass the exam as they are allowed to use their class notes during the test.

*This is a mandatory exam for the technician who handles refrigerants. Part of the 609 statutes say the individual must be 609 certified if they handle refrigerants and get paid for the work involving 134a/1234yf. The Clean Air Act fine - for those who get caught- is \$95,284 per tech violation, same for shop violation.

ADAS Best Practices - Tom Smith

Advanced driver assist systems (ADAS) faults come in a variety of forms. Component failure, networking problems and calibration failures are at the top of the list. This class will explore ADAS best practices, and the analytic process used to solve these problems efficiently. Learn how these systems can be effectively serviced and repaired using an understanding of the technology, strong foundational skillsets, and current service information.

Topics include:

- Current tooling to set calibration targets correctly
- Utilization of current service information
- Common environmental causes of calibration failures
- The analytic process
- Examples of common failures and corrections

48-Volts and Beyond - Advanced Hybrid Diagnostics – Tom Finneran

This course will bring you up to date with the DC and AC side of 48-volt and higher electrification.

48-volt systems will become the new normal as OEMs bridge the gap between more expensive higher voltage hybrid and electric vehicles and older conventional gas engine powertrains.

During this course, technicians will understand how they work, common failures and diagnostic tips to help you master the variables of hybrid systems.

- Diagnosing System Main Relays & High Voltage Interlock Circuits (POA0D)
- HV Isolation Fault Circuits & Battery Pack Data PIDs / Load Tests
- New 48-Volt Systems Coming Soon
- Real World in Bay Testing You Can Do

All Wheel Drive Technologies - Adam Robertson

Today's SUVs, sedans and sports coupes are embracing all-wheel drive to improve vehicle handling and, in some cases, make better use of high torque/high horsepower powerplants. Don't confuse all-wheel drive with four-wheel drive. Although some components are shared between the technologies, all-wheel drive utilizes advanced software and controls to precisely control torque vectoring and aid in the stability of the vehicle. Repairing these vehicles requires not only an understanding of the hardware, but also electronics and control strategies.

Topics in the course include:

Differences between AWD design vs. 4WD
The role of software's role in AWD operation
Common AWD components and how they operate
Proper diagnostic testing procedures
Analysis of vibration issues

Saturday, June 10th (2:00 pm to 5:15 pm) *continued*

Management, Service Advisor & Marketing Training

The Economy - 5 Vital Steps: Keep Your Shop Profitable & Expand in any Economic Climate **Jimmy Alauria**

Whether the economic changes have affected your shop or not, there are **FIVE specific actions** every shop owner and management team must take to ensure the shop stays profitable and can continue to expand in any economic climate. As small business owners we can't control the stock market, interest rates or consumer confidence. But this seminar will teach you the five actions you can take to ensure your shop is fortified and prepared to thrive in any economy.

Next Level Service Advisor - Jason Stretch

Are you looking to take your career in Sales to new heights? Do you want to learn how to successfully close your customers on the services they truly need with confidence and certainty? Well, Look no further!

In order to get the results, you really want in selling, you need a defined process that is repeatable and implementable from one customer to the next. This class will empower you like never before and help you gain the confidence and certainty you need throughout the selling process.

What are the steps in your Sales process? Do you take time to review and analyze the results of your communication to pinpoint the areas of opportunity leading up to the close? If you cannot fully answer these questions with certainty, I can help!

Brand Storytelling with Video - Patrick Egan

Your story matters to your prospective customers. They want a brand they can trust and connect with. Brand storytelling is no longer a **nice-to-have**, it's a **need-to-have** for any business that wants to be authentic and stay relevant.

During this session, we will explore why brand storytelling is the future of marketing. We'll dive into the psychology behind storytelling and why it is so effective in creating a connection, communicating your message, and making your brand that much more memorable. We will discuss why it's important to identify and understand your target market and your perfect customer. We will discuss the impact that video has on SEO and social media and discuss some best practices to successfully expand the reach of your brand and boost your business's visibility. We'll look at how the top 10% of businesses worldwide leverage their brand story to differentiate themselves from their competition. And you'll learn how spending one day in front of the camera can provide your brand with an entire year's worth of authentic branding videos.

This session is intended to be a hands-on learning experience, so we will take the opportunity to practice the techniques discussed and work with some of the tools you need to record great storytelling videos in your business. You will work in groups to craft your brand story and get the opportunity to record a video of your own.

Becoming a Destination Employer - Maylan Newton

In these times, going through the hiring process feels more like we are the ones preparing for the interview! We must be ready to present our own professional resume to rise above the competition. In essence, it's not much different from advertising and recruiting our customers; they are just a different and much more targeted audience.

Many of the same avenues can be used, such as social media and our Google page. People value their time and have become less tolerant of a work environment that doesn't meet their wants and needs. They are investing more time and consideration into their employment decisions, with so many available options.

Come learn how to make your perfect employees say yes to your job offers and be their final employment destination! time and consideration into their employment decisions, with so many options being available to them. Come learn how to make your perfect employees say yes to your job offers and be their final employment destination!