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2024 ATE Seattle Expo Features:

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2024 ATE Seattle Bonus Events:

All attendees are welcome to the bonus events scheduled following the training courses this year:

- ★ Educators Roundtable **Friday**, 4:00pm-5:00pm
- ★ Instructor Meet & Greet **Friday**, 4:00pm-5:00pm
- ★ Vendor Expo..... **Friday-Saturday**, 4:00pm-8:00pm
- ★ Shop Owner / Manager Roundtable **Saturday**, 4:00pm-5:00pm

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Seattle ATE Training Schedule | March 22-24, 2024

FRIDAY, March 22

	INSTRUCTOR	TIME (PST)
◆ Financial Strategies for Peace of Mind	Bill Haas	8:30am-11:30am
■ The Essential Laws of the Profitable Shop Manager	Jeremy O'Neal	8:30am-11:30am
◆ The Great Secret to Developing Great Organizational Culture	Greg Marchand	8:30am-11:30am
◆ ■ Using the Crystal Ball to Make the Sale	Kim Hickey	8:30am-11:30am
● ☆ Advanced Network Diagnostics	Adam Robertson & Gary Smith	8:30am-11:30am
● ● BMW ISTA	Brandon Mathews	8:30am-11:30am
● ● Critical Thinking – Diagnostic Strategies for 2024	Jerry "G" Truglia	8:30am-11:30am
● ● Diagnosing Ford using IDS and FDRS Laptop Based Scan Tools	Eric Ziegler	8:30am-11:30am
● Domestic Drivability Diagnostics	John Thornton	8:30am-11:30am
● Fundamental Alignment	Bob Graham	8:30am-11:30am
● ● Push Button Start, Start/Stop and Smart Key Access	Mark Isaac	8:30am-11:30am
● Tesla Service Essentials	Guy Vesco	8:30am-11:30am
Friday Lunch – KEYNOTE	Donny Seyfer	12:15pm-12:45pm
◆ ■ Creating the Ultimate Customer Experience	Darrin Barney & Tom Amero	1:00pm-4:00pm
◆ ■ From Chaos to Clarity: Enhanced Communication for Repair Shops	Sara Fraser	1:00pm-4:00pm
◆ Labor Rates Developer Tool: Mastering the Three Labor Types KPI's	Dave Schedin	1:00pm-4:00pm
■ Stop Selling Products & Services	Kim Hickey	1:00pm-4:00pm
● ● ADAS Calibration and Procedures	Guy Vesco	1:00pm-4:00pm
● Advanced Angles Alignment	Bob Graham	1:00pm-4:00pm
● Advanced GDI Diagnostic Strategies	Gary Smith	1:00pm-4:00pm
● ● BWM Bus System	Brandon Mathews	1:00pm-4:00pm
● ● Domestic Charging Systems & Power Management	Tom Smith	1:00pm-4:00pm
● Scan Data Diagnosis with Fuel Trim	Scott Shotton	1:00pm-4:00pm
● The In's & Out's of R1234yf Air Conditioning Systems	Kenneth Zanders	1:00pm-4:00pm
● ● Variable Valve Lift	John Thornton	1:00pm-4:00pm
After Hours Instructor Meet & Greet – Everyone Welcome		4:00pm 5:00pm
Educators Roundtable – Everyone is Welcome		4:00pm 5:00pm

2024 ATE Seattle Training Schedule, continued...

SATURDAY, March 23

	INSTRUCTOR	TIME (PST)
Saturday Breakfast – KEYNOTE	Jeremy O'Neal	7:15am-8:00am
◆ ■ Communicating with Technicians	Greg Marchand	8:30am-11:30am
◆ Driving Success: The Art of Building Superstar Teams	Darrin Barney	8:30am-11:30am
■ Getting the “YES” with Confidence	Rick White	8:30am-11:30am
◆ Shop Production and Payroll that Drive Profits	Bill Haas	8:30am-11:30am
● How to use your Lab Scope for Diagnostics	Mark Isaac	8:30am-11:30am
● Hybrid & EV - AC Diagnostics	Jason Gloria	8:30am-11:30am
● Introduction to Advanced Drive Assist Systems – ADAS	Bob Graham	8:30am-11:30am
● Mercedes Automotive Electronics	Ian Lebby	8:30am-11:30am
● ● Misfire: Efficient & Effective Diagnosis	Eric Ziegler	8:30am-11:30am
● ● Reprogramming with J2534 for 2024	Jerry “G” Truglia	8:30am-11:30am
● ● ☆ The “NOT-SO” Diagnostic Process	Keith Perkins	8:30am-11:30am
● ● Thermal Imaging	Tom Smith	8:30am-11:30am
Saturday Lunch – KEYNOTE	Gary Smith	12:15pm-12:45pm
◆ Building a Culture and Employee Embrace	Sara Fraser	1:00pm-4:00pm
◆ Processing, Procedures and their Effect on KPI's	Maylan Newton	1:00pm-4:00pm
■ The Connected Service Advisor	Jeremy O'Neal	1:00pm-4:00pm
◆ ■ Why Can't We All Just Get Along?	Rick White	1:00pm-4:00pm
● Advanced Oscilloscope Engine Testing	Mark Isaac	1:00pm-4:00pm
● ● Developing Better Diagnostic Judgement and Critical Thinking	Haakin Light	1:00pm-4:00pm
● ● Mercedes Intelligent Drive & Assistance System (ADAS)	Ian Lebby	1:00pm-4:00pm
● ● Modern Electronic Steering & Suspension	Jason Gloria	1:00pm-4:00pm
● ☆ Targeting Mechanical Diagnosis with Pressure Transducers	Adam Robertson	1:00pm-4:00pm
● ● Today's TPMS and EV Tire Repair Procedures	Keith Perkins	1:00pm-4:00pm
● ● ☆ Understanding & Diagnosing Electric Hybrid Vehicles	Kenneth Zanders	1:00pm-4:00pm
● ● Vehicle Keys and IMMO	Keith Perkins	1:00pm-4:00pm
Shop Owner/Manager Roundtable – Everyone Welcome		4:00pm 5:00pm

SUNDAY, March 24

	INSTRUCTOR	TIME (PST)
◆ How to Survive, No, THRIVE in Times of Crisis	Maylan Newton	8:30am-11:30am
◆ ■ Presenting & Selling Diagnostics with Value	Dave Schedin	8:30am-11:30am
◆ ■ Time, Technicians, Productivity	Greg Marchand	8:30am-11:30am
◆ Unlocking Extraordinary Futures as a Multi-Shop Operator!	Michael Smith	8:30am-11:30am
◆ Unleash Potential of Your Manager SE Shop Management System	Tim McDonnell	8:30am-11:30am
◆ Maximizing Efficiency With Tekmetric's Shop Management Solution	P.J Leslie & Ian Miller	8:30am-11:30am
◆ Software Management Class – ShopWare	TBD	8:30am-11:30am
● ● ☆ Advanced Application of Electronic Theory	Keith Perkins	8:30am-11:30am
● ● Audi & VW Diagnostics: Strategies for more Accurate & Efficient Diagnosis	Haakin Light	8:30am-11:30am
● ● Diagnosing Mechanical Engine Issues w/ Traditional & Untraditional Tools	Eric Ziegler	8:30am-11:30am
● ● Diagnosis Variable Valve Timing Systems	Mark Isaac	8:30am-11:30am
● ● Network Communication Diagnosis	Scott Shotton	8:30am-11:30am
☆ Testing Automotive RF	Gary Smith & Adam Robertson	8:30am-11:30am

◆ **Financial Strategies for Peace of Mind**

Presented by Bill Haas • Sponsored by WTI

The money is what really matters. Managing the money is the difference between enjoying your role as an owner or manager and struggling to make ends meet. You don't need to be an accountant. You need to understand the realities of what really affects your profits. Those same realities give you the ability to make decisions for your business based on current and projected financial performance.

- Understanding the Profit and Loss statement
- Properly pricing labor and parts sales
- Staff efficiency and productivity
- Key Performance Indicators – the numbers you need to monitor and the frequency they should be checked
- Budgets for forecasting sales and managing expenses

■ **The Essential Laws of the Profitable Shop Manager**

Presented by Jeremy O'Neal • Sponsored by WTI

Selling crucial maintenance services is an overwhelming challenge for service advisors facing endless makes and models. Determining appropriate recommendations across vehicle types while preparing accurate quotes quickly stretches resources thin. This class presents a streamlined system for maximizing maintenance profitability through targeted preventative sales.

Attendees will construct customized maintenance plans catered to dominating repair issues plaguing today's expanding fleet. By reverse engineering common failures to their root defects, advisors can build precise maintenance solutions to prevent these top troubles proactively.

Step-by-step guidance will outline efficiency tricks and shortcuts for applying factory schedules to real-world repair scenarios. Advisors will learn proven communication techniques to convey their preventative maintenance prescription as the expert solution customers are seeking.

With the essential laws provided to systematically drive maintenance revenue through prevention, advisors will serve as trusted advisors while achieving critical shop profits. Attendees will leave confident in selling customized plans that help customers avoid tomorrow's breakdown today.

◆ **The Great Secret to Developing Great Organizational Culture**

Presented by Greg Marchand • Sponsored by ShopPros

Employees are crucial to a successful, growing business, yet hiring and retaining employees seems to get harder and harder every year. Low unemployment, disinterest in working for the automotive service industry, and competitive pay in other industries all contribute. Whether you are a Service Advisor, Service Manager, or Shop Owner, understanding what allows employees to perform their best, commit to the organization long-term, or feel satisfied in the workplace is extremely important to your business growth and sustainability. This seminar provides real world examples of employee development successes and failures. Learn where employee development begins (with you), how to create accountability (for everyone), what mentoring really is and how to implement it, how to provide effective feedback, and where (and how) a comprehensive training program fits into your employee development.

◆ ■ **Using the Crystal Ball to Make the Sale**

Presented by Kim Hickey • Sponsored by ATI

What if I told you that each of you has in your possession a crystal ball that would allow you to see everything your customer needs and what is truly important to them? In this session you will not only learn what that crystal ball is, but exactly how to use it. Using the tools and resources you already have at your disposal; you will begin to master the technique of customer understanding and learn to build the trust and relationship needed to guarantee you sales. This class will be interactive so you will not only possess the skills to maximize your success, but also the confidence that comes with seeing firsthand how effective you can be.

● ✨ **Advanced Network Diagnostics**

Presented by Adam Robertson & Gary Smith • Sponsored by DiagNation/WTI

Automotive communications network diagnostics can be some of the most challenging diagnostic scenarios that technicians face today. In this class, you will learn game-changing network diagnostic techniques and will learn in-depth physical testing to quickly and accurately nail down the cause of your network fault. BRING YOUR LAPTOP loaded with Pico 7 software to participate in this fantastic class.

- Learn the physical properties of the CAN and other bus lines for testing.
- Learn about using the transport layer and knowledge of the protocol rules to identify the cause of the fault.
- Learn 5 VISUAL waveforms to guide your next step, don't waste time anymore!
- Learn truly effective diagnostic strategies and approaches to network problems.

● ● **BMW ISTA**

Presented by Brandon Mathews • Sponsored by WTI/OPUS IVS

Course topics include:

- BMW TIS navigation
- ISTA download & installation
- Diagnostic software navigational controls & operation
- Programming instruction
- Error troubleshooting
- Best Practices

● ● **Critical Thinking - Diagnostic Strategies for 2024**

Presented by Jerry "G" Truglia • Sponsored by Dorman Products

This popular class/seminar has been updated from 2021. Success in diagnosing today's high-tech systems requires a high-tech approach. This class/seminar covers the tools you need to cope with these challenges. You'll learn to develop a diagnostic process and a diagnostic "Game Plan". How to use the tools the OEMs give you; ECM strategies, code setting criteria, PID analysis and how fuel trims can be used to point you in the right direction. This seminar also discusses batteries, including coding and reprogramming, parasitic draw, voltage drop, engine testing including relative compression, compression testing, cylinder leak down, gas analysis, fuel flow testing, fuel trim, current ramping, PCM testing, pressure transducers, reprogramming, a new way to test EVAP and much more. This new class will provide the tools for success in diagnosing today's high-tech systems that requires a high-tech approach. Covered are the tools you need to cope with these challenges.

● ● **Diagnosing Ford using IDS and FDRS Laptop Based Scan Tools**

Presented by Eric Ziegler • Sponsored by WTI

The venerable Next Generation Star (Ford Handheld Scanner) was phased out almost 20 years ago. Its replacement was the laptop-based Integrated Diagnostic System or IDS which was introduced to dealers in 2005. It has been a stalwart of Ford vehicle diagnosis for Ford/Lincoln vehicles from 1996 to roughly 2019. It is power packed with features that reduce diagnostic time like Module Programming, Power Balance, Relative Compression, Automated Fuel System and Evaporative Emissions testing. Many shops have yet to embrace this affordable and efficient tool.

Ford Diagnostic & Repair System (FDRS) – This is the next generation factory Ford Motor Company vehicle diagnostic Software designed for use with VCM II or VCM III, VCMM and J2534 compatible Vehicle Communications Interfaces (VCI). This is the replacement for the IDS.

The major difference is that FDRS is internet cloud based. It has many of the same powerful features of IDS but with other improvements.

This class will investigate both IDS and FDRS strengths and weaknesses. Features will be discussed, and their advantages to speeding up the diagnostic process. Hardware, software, licenses and interfaces will be investigated. Real world case studies will be used as examples.

● **Domestic Drivability Diagnostics**

Presented by John Thorton • Sponsored by WTI

In this case study based class, John will discuss a variety of diagnostic techniques used to solve a mix of difficult driveability problems found on GM, Ford and Chrysler vehicles.

Case Studies are tremendous educational tools which can be used to explain system theory, specific testing techniques and data interpretation in a real world environment.

Topics to be covered include:

- Fuel Trim
- Engine Mechanical
- Low Power Complaints
- Direct Injection
- Variable Cam Timing

Scan data interpretation and scope usage along with a common sense approach will be highlighted throughout this session.

● **Fundamental Alignment**

Presented by Bob Graham • Sponsored by Hunter Engineering

This course is designed for the new or less experienced individual with a desire to learn fundamental four-wheel alignment. It also includes an overview of suspension and steering systems with detailed instruction in performing proper inspection procedures.

Describe camber, caster, toe, and thrust angle and the related effects these angles have on tire wear and vehicle handling. Perform proper pre-alignment inspection of the suspension and steering systems.

● ● **Push Button Start, Start/Stop and Smart Key Access**

Presented by Mark Isaac • Sponsored by Garage Gurus

This clinic enhances the skills of the professional technician in the area of push-button start, smart keys and start/stop systems. All of these systems are integrated together and can have an impact on one another. This course will discuss tricks in navigating service information to find necessary information for diagnosing a 'no-start' or no 'power up' condition. We will highlight various methods to allow scan tool communication with relevant modules in the event of a dead fob, or a failed start button. Wiring schematic information is highlighted throughout to understand diagnostic strategies. We will review communication networks, security gateways and talk through all of the system checks necessary to power and start and run the vehicle.

After completing this seminar, the student will have the knowledge to:

- Source wiring schematics relevant to vehicle starting systems using smart keys
- Identify root causes for a vehicle 'no-start' or 'no power up' condition
- Understand the hardware and electrical circuit control for start-stop systems
- Analyze related electronic systems that interact with the push button start system
- Understand the role the security system plays in starting the vehicle

● **Tesla Service Essentials**

Presented by Guy Vesco • Sponsored by NAPA Autotech

A Tesla may be an EV with some peculiar differences from the other vehicles we work on every day, but there are quite a few similarities as well. It still has hydraulic brakes, rubber tires, and a 12-volt system that does virtually everything that doesn't provide the electrical power to propel the vehicle. In a word, if you're already servicing hybrids and other EVs, Teslas aren't much different; that being said, there are some things that technicians need to learn if they are going to perform essential services on these vehicles. There will be over 2.5 million Teslas on the road as of late 2021; if your shop isn't ready to handle them, now is the time to turn this issue into an opportunity.

- Safety practices
- Electrical procedures
- High voltage disconnects
- Service mode
- Proper lifting procedures
- Tesla service information & diagnostic software
- Cooling the battery and powertrain
- Service reminders
- 12V battery replacement

Tesla differences with:

- Brakes
- Tires
- Steering and suspension
- Alignment
- Headlights
- Climate control

11:30pm - 12:45pm PST

LUNCH KEYNOTE:

Are you concerned about the impact EVs could have on your bottom line?

Presented by Donny Seyfer • Sponsored by National Automotive Service Task Force (NASTAF)

What does the future look like beyond the media and government hype? Join Donny Seyfer, NASTF Executive Officer and industry evangelist, for a look into real numbers and what's happening behind the scenes of the "EV Revolution" so you can make good decisions today and for the future of your business.

1:00pm - 4:00pm PST

◆ ■ Creating the Ultimate Customer Experience

Presented by Darrin Barney and Tom Amero • Sponsored by Elite Worldwide

Is Customer Experience (also known as CX) more important than price? This age-old question still shows up in the mainstream. According to a 3rd party survey, 54% of consumers make decisions based on customer experience, with 19% considering it the most important deciding factor. If more than half of consumers will decide on where to do business based on service, improving your CX will allow you to improve profit margins on services, spend less on advertising, create happier customers, retain and grow your customer base, and serve your community well.

Join Darrin Barney and Tom Amero from Elite Worldwide as we discuss strategic approaches to improve your Customer Experience (CX). In his role at Elite, Tom and Darrin have worked with hundreds of shops and owners to help create successful business-to-customer interactions and have seen first-hand the impact it can have on shops when executed well.

Let's elevate the industry together and create the Ultimate Customer Experience!

◆ ■ From Chaos to Clarity: Enhanced Communication for Auto Repair Shops

Presented by Sara Fraser • Sponsored by WTI

In the fast-paced and demanding environment of automotive repair shops, effective communication is the key to success. This course is specifically designed to help automotive repair shop owners, managers, and staff transform their daily interactions into a well-oiled machine, leading to improved efficiency, customer satisfaction, and overall business performance.

This course will cover topics such as the importance of communication, meeting essentials, effective team collaboration, customer interaction, conflict resolution, and more.

Turn your shop environment into a thriving, customer-centric, and efficient business. Become empowered to communicate better, deliver excellent service, and drive success. Start the journey to enhance communication in your shop.

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◆ **Labor Rates Developer Tool: Mastering the Three Labor Types KPI's**

Presented by Dave Schedin • Sponsored by ServiceIntel

Most shops don't have the right labor rate set up let alone have the three labor types set up right:

- Preventative Maintenance (PM) Labor
- Diagnostics Labor
- Repair Labor

It all starts with discovering the right labor rate for YOUR business model for each of the labor types. You will walk away with a Labor Rate Developer Tool that is your for life.

It continues with two levels of MAXIMIZING each of the following labor types in your Shop. Learn how EACH one has a different volume and efficiency benchmark for YOUR Shop Business Model. Old school thinking was to get to 125% tech efficiency but in light of today's economy, 125% tech efficiency is "minimum wage" tech efficiency. Operating on all cylinders, top shops are getting 150% or more tech efficiency. Yes, it IS being done and today we will focus on maximizing all three labor types all the while systemizing your labor so you don't have to think about it.

Intelligence applied to knowledge is Wisdom! Knowing the benchmarks is just that, knowledge, and applying intelligence to the three types allows you to SYSTEMIZE them so they can automate driving sold hours and tech productivity and efficiency to the highest levels.

"If You Don't Track It, You Can't Manage it!". Learn simplistic and advanced KPI's to know what your labor is doing every day, week, month, quarter, and year!

■ **Stop Selling Products & Services**

Presented by Kim Hickey • Sponsored by ATI

Sales are based on emotions and the products or services we "sell" are simply the vehicle in which we use to sell emotions. The key to making the sale is understanding the emotions of your buyers. Those emotions translate into buying personalities. Whether we are "selling" a service to an external customer, or "selling" a process to your internal customers, it all boils down to the same thing. The ability to help your "buyer" understand what's in it for them and how to convey the message in a language they understand and that speaks to their emotions. Understanding buying personalities will not only help you increase your average repair order, but it will help you get buy-in from your staff, and even help to improve your relationship skills. In this session, you will learn how to sell emotions and how to apply that knowledge in any situation. We will also touch on how those emotions affect selling in today's economy.

● ● **ADAS Calibration and Procedures**

Presented by Guy Vesco • Sponsored by NAPA Autotech

Outsourcing vehicle repairs is never profitable. ADAS has made once routine repairs more involved, and simple part replacement and servicing is NOT so simple. This class will focus on the required ADAS calibrations and procedures to keep those vehicles in-house.

- Equipment
- Equipment setup
- Calibrations
- Procedures
- Software

● **Advanced Angles Alignment**

Presented by Bob Graham • Sponsored by Hunter Engineering

Topics covered include a more in-depth study of the alignment angles, aftermarket adjustments and modified vehicles. Emphasis will be placed on OEM and aftermarket vehicle adjustment procedures found on today's passenger cars, light trucks and SUVs using SLA and strut suspensions including Twin I-Beam suspensions and "altered height" vehicles. Describe in-depth principles of camber, caster, toe and thrust angle. Describe the basic principles related to spindle leverage, center of gravity, roll center, frame angle and scrub radius. Identify potential alignment related problems from equipment printouts using Hunter equipment.

● **Advanced GDI Diagnostic Strategies**

Presented by Gary Smith • Sponsored by DiagNation/WTI

In this class, we will study several unique approaches to diagnosing difficult GDI-related faults. This will include case studies involving support line calls where technicians were stuck in OEM diagnostic loops and not able to find the fault. Several diagnostic approaches are covered in this class.

- GDI VS. MPI: How they Differ in Diagnostics
- Diagnosing the High-Pressure and Low-Pressure Sides of the GDI Fuel System
- When Scan Data Can Help vs Lab scopes on GDI Problems
- Mechanical Testing: Dos and Don'ts Pressure Analysis
- Variable Valve Timing Diagnosis in GDI Applications

● ● **BWM Bus System**

Presented by Brandon Mathews • Sponsored by WTI/OPUS IVS

Course topics include:

- Serial data networks overview & troubleshooting (BSD, TXD, K BUS, I BUS)
- High speed CAN BUS structure & testing
- Byteflight & MOST BUS fiber optic networks
- LIN BUS structure & testing
- FlexRay attributes & testing
- Ethernet & OABR Ethernet
- Testing equipment & useful tooling

● ● **Domestic Charging Systems & Power Management**

Presented by Tom Smith • Sponsored by CTI

Are you replacing the alternator unnecessarily? When faced with an illuminated BAT, GEN or ALT light that's on what do we do on a late model vehicle equipped with a computer controlled charging system? The connected development of next-generation electrical and electronic architectures (EEA's) has led to a whole new level of balance between modern batteries and the charging systems that support the vehicle's electrical needs. The modern charging system is designed to maximize the effectiveness of the generator, manage loads, improve battery state of health and life, send diagnostic messages to alert the driver, and minimize the system's impact on fuel economy.

This course will cover:

- Electrical power management designs
- Regulated voltage control for ignition off and on demand
- Battery state of charge, health and function
- Alternator pulley diagnosis overrunning alternator pulley (OAP) and decoupler (OAD)
- Charge indicator message interpretation
- Modes of charging system operation

● **Scan Data Diagnosis with Fuel Trim**

Presented by Scott Shotton

This class will focus around fuel trim values in conjunction with other data PIDs. Many case studies will be used to illustrate points like: incorrect fuel injector flow rate, what you didn't realize you needed to know about Ethanol, EVAP, and more. A variety of scan tools will be used.

● **The In's & Out's of R1234yf Air Conditioning Systems**

Presented by Kenneth Zanders • Sponsored by Dorman Products

This class/seminar will cover all the components of the R1234yf air conditioning system along with step by step instructions of how to test, recover, evacuate, recharge and add oil/dye to the system. We will have a R1234yf machine connected to a vehicle and provide you with the dos and don'ts when performing system service and repair. At over \$70.00 a pound you don't want to guess but rather test and get the job done right the first time. Upon the completion of this class you will have a better understanding of the refrigerant, system, testing, equipment use and getting the system back to its normal state. Today's vehicles are more involved so it's important to use a proper diagnostic approach.

● ● Variable Valve Lift

Presented by John Thornton • Sponsored by WTI

VVL systems are common on modern day engine management systems. Many times, VVL works with Variable Cam Timing systems to increase engine performance and efficiency.

Three systems will be covered in detail:

- Chrysler Pentastar 3.6L two step hydraulically controlled VVL
- VW/Audi 4-cylinder turbo two step electro-mechanically controlled VVL
- GM Turbo 2.7L engine two step electro-mechanically controlled VVL

System diagnostics will include scan tool driven tests as well as manual driven tests. Scan data interpretation and scope usage will be highlighted throughout this session.

4:00pm – 5:00pm PST

After Hours Instructor Meet & Greet – Everyone Welcome

Plan to attend this After Hours event to discuss and explore topics along with other attendees and the instructors, with the opportunity to gain more information and ask follow-up questions.

Educators Roundtable – Everyone Welcome

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**CLICK TO REGISTER
TODAY!**



SATURDAY, March 23, 2024

7:15am – 8:15am PST

BREAKFAST KEYNOTE

Presented by Jeremy O'Neal; Sponsored by AdvisorFix

Diagnosing Vehicle issues is a key part of your shop's repair process. Overcoming objections in this age of internet information where the customer wants to tell you what is wrong is a key to profitability. Selling diagnostics with confidence is more important now than ever!

8:30am – 11:30am PST

◆ ■ Communicating with Technicians

Presented by Greg Marchand • Sponsored by ShopPros

Sometimes communication between technicians and service consultants is a challenge. This interactive course provides an understanding of perspectives from both sides of the shop. Participants will discuss communication challenges and real world scenarios that occur within their work environment all with the intent of understanding, diagnosing, and resolving these challenges. Tools, tips, and techniques for handling a wide range of technician challenges will be learned in a fun and challenging environment. Technicians and Service Advisors are encouraged to attend together!

Driving Success: The Art of Building Superstar Teams

Presented by Darrin Barney • Sponsored by Elite Worldwide

Everyone knows how important your team is for the success of your business. But in reality, how many people are able to find and most importantly, keep those superstars once they get them on their team? Darrin Barney will show you a road map that will allow you to find, keep and grow your most important asset. Your employees. Darrin and his team have grown his shop to one of the largest independently owned auto repair facilities in North America, and they have customers, literally around the world. His unparalleled success quickly caught the attention of the industry, and it's brought about his being featured in countless podcasts and nationally published articles, he's been on the cover of Auto Inc. magazine, and he's spoken at number of the industry's largest events. He is also the President at Elite Worldwide. Here are a few of the topics that Darrin will be discussing:

- The importance of Knowing where you are going
- Hiring and growing a team of Superstars
- The importance of MLAP, Goals and Performance Tracking
- Love em' or Lose em! - Why your shop culture matters and how to take care of your team

Getting the "YES" with Confidence

Presented by Rick White • Sponsored by WTI

How many classes have you attended thinking, "they don't know what it's really like out there." Each topic seems extremely myopic – perfect if you work in a vacuum. But in the "real world" customers walk in, the phone never stops ringing, employees don't stay forever, and potential customers always want the price first... right? Well, this is the class for you! This class spends a day in an advisor's shoes from the key in the lock in the morning to locking the door behind you at night. We will show you how to be successful as a service advisor in an environment of problems, price shoppers and constant interruptions. This class will arm you with tools to use to ensure success during each sales situation.

◆ **Shop Production and Payroll that Drive Profits**

Presented by Bill Haas • Sponsored by WTI

Many things contribute to your profit or lack of it. Our ability to produce work in a timely manner is the best way to make a store profitable. Lost hours kill profit. Making sure you get past all the obstacles of selling time, using time efficiently, and measuring time are critical to making a profit. Implement a strategy for getting paid for what you do and getting paid for what you know. There is a difference.

Once the revenue (all the above) is addressed we will move on to cost. Which is our payroll. Making sure we know who is on the payroll, why they are on the payroll and how they are paid is another driver of profits.

Your employee retention strategy is to charge appropriately and then pay more than your competition. Employees will never consider leaving for more money.

● **How to use your Lab Scope for Diagnostics**

Presented by Mark Isaac • Sponsored by Garage Gurus

In this clinic, we will present how to set up and operate a lab scope for the purpose of testing automotive sensors and components of various types. As the saying goes, "A picture is worth a thousand words." We cover set up procedures, voltage and time base settings, and waveform capturing techniques. Waveforms captured from many different component types are reviewed to differentiate 'good' and 'bad' waveforms. A color clinic book is provided showcasing popular aftermarket lab scope waveforms for take home reference.

After completing this clinic, the student will have the knowledge to:

- Set up and capture automotive waveforms using a lab scope
- Configure lab scope settings for optimized viewing of waveforms
- Properly connect a lab scope to various solenoids, actuators, speed and position sensors and DC motors found under hood and undercar
- Identify when going for the lab scope is necessary
- Utilize multiple channels of the lab scope to aid in diagnostic situations

● **Hybrid & EV – AC Diagnostics**

Presented by Jason Gloria • Sponsored by NAPA Autotech

With the ever-expanding line of Hybrid and EV vehicle models being released, we need to know how to accurately and safely service various systems in these vehicles. The fundamentals of air conditioning haven't changed, but there are some important details that must be known and safety procedures followed in relation to these high-voltage systems. Students will be taught about safety precautions, component construction and operation, compressor design and heat pump systems, and diagnostics. Follow along as we introduce case studies that highlight different issues and their subsequent repairs.

- Safety precautions
- R134a and R1234yf refrigerants
- PID interpretation and diagnostics
- Refrigerant pressures
- Common Issues
- Types of compressors
- Isolation and refrigerant oil
- Heat pump systems
- Chiller units
- Poor cooling and no cooling

● **Introduction to Advanced Drive Assist Systems (ADAS)**

Presented by Bob Graham • Sponsored by Hunter Engineering

This course is designed for the new or less experienced technician with a desire to learn the fundamentals of Advanced Drive Assistance Systems. This course is designed to give technicians the information needed to learn the fundamentals as it relates to post-wheel alignment procedures. This course is designed to instruct inexperienced technicians the proper procedures for calibrating forward facing ADAS systems such as Lane Departure Warning systems and/or Adaptive Cruise Control systems. This course will also provide an overview of procedures required for calibrating lesser systems such as blind spot monitor, surround view, and rearview camera systems.

- Identify the components of ADAS systems.
- Describe the difference between Active and Passive driver assistance system.
- Describe the difference between a dynamic and static calibration process.
- Demonstrate how to determine if post-alignment calibration is needed. Identify the key components of ADAS calibration fixtures.
- Demonstrate how to navigate ADASLink software.

● ☆ Mercedes Automotive Electronics

Presented by Ian Lebby • Sponsored by WTI

Course topics include:

- CAN, D2B, MOST, LIN, FlexRay - Operation, Diagnosis & troubleshooting
- Dual battery systems - Function and overview
- Electrical circuits, wire identification, color codes & correct wire repair procedures
- Parallel and series circuit calculation & voltage drop calculation methods
- Digital Multimeter measurements and the importance of understanding & verifying the measurement units
- Repairing SRS connectors to factory specifications - Correct procedures & repair verification

● ● Misfire: Efficient & Effective Diagnosis

Presented by Eric Ziegler • Sponsored by WTI

Misfires can be caused by three things: Ignition, fuel, or mechanical issues. This course covers the diagnostic techniques required to rapidly narrow the offender to one of these three possibilities. Emphasis is placed on a logical approach and effective use of appropriate testing techniques. Scan tools and scopes will be the main focus of this class. However, other tools will be used as well.

● ● Reprogramming with J2534 for 2024

Presented by Jerry "G" Truglia • Sponsored by Dorman Products

Today there are two to three options for programming or programming modules on vehicles. In the aftermarket most shops and technicians cannot afford to purchase all the dealer tools or even an AutoLogic for European vehicle. There is an alternative to the Drew Tech/ Launch/Snap-On/ Bosch J2534 reprogramming box. This class will focus on using the J2534 box to reprogram vehicles in the aftermarket. The class will provide all the necessary steps to follow, some simple and some not so simple. With so many different OE websites and different procedures any step that is not followed will waste time and cost you money. The class/seminar will cover: OE websites, what software to have and NOT have on your laptop, how to sign up to obtain a user name and password, installing Tool Box from Drew Tech, how to update your J2534 software, updating the firmware, finding the correct computer information, what battery maintainer to use, how to look up information, how to prevent module/computer failure, when to program and much more. This class/seminar will provide you with information on what you need to know about J2534 programming in order to keep you out of trouble.

● ● ☆ The "NOT-SO" Diagnostic Process

Presented by Keith Perkins • Sponsored by WTI

Every level of technician, service advisor and manager will leave with their own "golden nugget" of knowledge out of this class. This class sets the foundation for analysis and testing of any problem that occurs in a bay. Real world case study driven.

- The 5 steps to solve ANY problem
- The service information "hack" that no one uses
- Documentation steps we all miss
- Leveraging your scan tool for profit

● ● Thermal Imaging

Presented by Tom Smith • Sponsored by CTI

Thermal imaging is fast becoming a rapid, non-intrusive way to gather analytic data quickly. Thermal cameras are becoming widely available but correct operation that gives accurate results involves much more than point and shoot. Learn the benefits and the pitfalls of this technique.

Topics include:

- Advantages of using Thermal Imaging for diagnosis
- Understand the differences in Thermal Cameras
- Know the limitations of Thermal Cameras
- Explore documented uses of Thermal Imaging for diagnosis on real use cases

12:30pm - 1:15pm PST

LUNCH KEYNOTE:

Title

Presented by Gary Smith • Sponsored by DiagNation

Description

1:00pm - 4:00pm PST

◆ **Building a Culture and Employee Embrace**

Presented by Sara Fraser • Sponsored by WTI

The future of your business depends on having people to perform the work and serve the customer. Are you up for the challenge of providing a culture that employees are looking for?

With the right culture, talented people have a desire to stay. Gain an understanding of the characteristics and values employees are looking for. Learn the seven questions employees ask themselves when evaluating their job satisfaction. Influence employee's attitude towards their work when you provide an environment and culture that includes effective management, empowerment, recognition, and a balance of challenges and opportunity.

Have a culture that defines your competitive advantage.

◆ **Processing, Procedures and their Effect on KPI's**

Presented by Maylan Newton • Sponsored by ESI

Is your facility consistent when it comes to customer interaction, repair processes, and paperwork? Without specific processes and procedures throughout your facility, there is no consistency in anything, especially your key performance indicators. This class takes a hard look at what is essential and what is not when building processes and procedures for your shop.

■ **The Connected Service Advisor**

Presented by Jeremy O'Neal • Sponsored by WTI

Service advisors today face highly informed customers armed with extensive vehicle knowledge from online resources. To earn trust and make sales in this climate, advisors must command technical fluency themselves while still connecting on a human level.

In this class, learn proven techniques to blend repair information mastery with relationship-building skills for customer rapport and lifelong retention. Attendees will explore the top 3 professional automotive repair sites to instantaneously boost their knowledge beyond DIY forums.

By combining this broadened technical grasp with value-focused, customized client conversations, advisors can confidently guide customers through recommendations. Training focuses on how to leverage technology alongside emotional IQ to lead complex technical discussions with clients' best interest in mind.

Participants will leave not only as highly informed advisors but also trusted advisors. Blending digital vehicle mastery with genuine human relationships, this class will equip service advisors to educate, inform, and turn today's wired customers into delighted returning clients.

◆ ■ **Why Can't We All Just Get Along?**

Presented by Rick White • Sponsored by WTI

Conflict in the shop between the Service Advisor and the Technician is all too familiar – particularly under increased business pressures. As shop owners, we expect higher billed hours per ticket as well as higher efficiency and productivity in the bays. Whether we are ON or OFF, it all reflects directly on the bottom line.

The reality is that work is accomplished through collaborative efforts of many and differences are actually a positive force if you know how to harness them. Your ability to develop good interpersonal skills can create rapport in your shop environment can make – or break – the success of the shop. Are you ready to become a “Conscious Communicator”? In this class you will develop self-awareness, learn to analyze situations, and consciously select and use productive communication strategies.

You will also find YOUR relationship style, identify your own strengths and weaknesses, and master the winning tactics to work harmoniously with your counterpart in the shop or on the front counter to achieve your goals.

● **Advanced Oscilloscope Engine Testing**

Presented by Mark Isaac • Sponsored by Garage Gurus

This clinic will focus on the different types of electronic engine diagnostic procedures used to diagnose today's engines. Both in- cylinder pressure transducers and manifold vacuum transducers used with a digital storage oscilloscope (DSO) can reduce valuable diagnostic and teardown time on today's VVT equipped multi-cam engines. Engine performance and emissions can be severely impacted by cam timing concerns caused from lack of oil, failed timing chain tensioners and/or stretched timing chains or belts. Volumetric efficiency reductions caused by lack of air flow concerns from restrictions in the intake or exhaust systems can cause Low Power concerns. Engine compression issues can be significant in size or very small, almost undetectable at times, leading to misfire DTCs. Relative compression testing can reduce the time it takes to validate a compression issue on an engine. These types of problems can skew the diagnostic information in the scan tool and can make it unreliable or unclear. In this clinic you learn the benefits of using modern diagnostic equipment and when to use these testing techniques.

After completing this clinic, the student will have the knowledge to:

- Identify what tests to apply to accurately pinpoint the cause of engine performance concerns such as lack of power, run roughs, air leaks and engine misfire
- Perform relative compression tests using both scan tools and lab scopes with a high amp current probe
- Perform mechanical engine testing and diagnosis using electronic pressure transducers
- Validate engine camshaft to crankshaft correlation accurately using lab scope tests
- Utilize new scan tool information and techniques to reduce diagnostic time in the service bay for VVT related faults or symptoms

● ● **Developing Better Diagnostic Judgement and Critical Thinking**

Presented by Haakin Light • Sponsored by TOPDON

This class is focused on helping technicians improve their diagnostic process. We work to improve their understanding of the role or standard operating procedures as well as refining their critical thinking skills. Everything is framed with an adaptive approach mindful of efficiency and wide applicability to all makes and models. Methods of data collection are addressed as well as bringing to light the benefits and limitations of many tools and testing techniques. All skill levels can benefit from this class.

● ● Mercedes Intelligent Drive & Assistance System (ADAS)

Presented by Ian Lebbby • Sponsored by WTI

Topics covered in this course:

- DISTRONIC® Distance-Pilot with Steering-Pilot
- Active Lane Keeping Assist
- Active Blind Spot Assist
- Active Brake Assist with cross-traffic function
- Speed Limit Assist
- Evasive Steering Assist
- Driving Assistance Package Plus
- Park-Pilot and 360° camera

● ● Modern Electronic Steering & Suspension

Presented by Jason Gloria • Sponsored by NAPA Autotech

With the advent of Advanced Driver Assistance Systems (ADAS), steering and suspension systems are now integrated into the broader scope of safe vehicle operation through computer monitoring and correction. Understanding how these systems integrate, operate, and are diagnosed, will be instrumental for a profitable shop.

- In-depth view of these systems
- Using scan tool and scope diagnostics
- The power steering control module's place on the information bus
- Coverage of proper resets and calibrations
- Differentiate various systems: pneumatic, magnetic and hydraulic

● ☆ Targeting Mechanical Diagnosis with Pressure Transducers

Presented by Adam Robertson • Sponsored by DiagNation/WTI

Being accurate with pressure transducer diagnostics requires us to have a good understanding of the physical aspects of pressure change related to engine position and motion. In addition, interpretation of ANY pressure waveform requires us to be able to understand the mechanical-electronic conversions taking place on the scope screen. In this class, you will learn:

- Understanding pressures, compression and vacuum and how they change.
- In-cylinder compression waveforms: Components, flow and diagnosis points.
- Utilizing pressure diagnostics to isolate internal engine and transmission faults.
- Utilizing pressure waveforms and multiple channel signal overlay for reference.
- Difficult support case studies are used to show diagnostic methodology.

● ● Today's TPMS & EV Tire Repair Procedures

Presented by TBD • Sponsored by Point S Tires

Description:

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● ● ☆ **Understanding & Diagnosing Electric Hybrid Vehicles**

Presented by Kenneth Zanders • Sponsored by Dorman Products

This Hybrid class focuses on the proper techniques necessary to diagnose, repair, service and make money on Hybrid vehicles. Class consists of:

- Safety training
- DVOM usage (CAT III certified)
- Megohmmeter usage
- Hybrid diagnosis using scan tools
- Scan tool shootout (Enhanced and OEM)
- Labscope measurements on Hybrids
- Using low and high amperage clamps on Hybrid systems
- Testing high voltage batteries
- Regenerative braking system
- AC to DC inverters and DC to DC converters
- Electric assist steering
- Common service procedures; oil changes, cooling systems, tires, brakes etc.
- Internet and OEM websites
- Real world testing

● ● **Vehicle Keys and IMMO**

Presented by Keith Perkins • Sponsored by WTI

Vehicle security systems are considered by most technicians to be overly complex and difficult to repair. We will explore some solid foundations of how vehicle security works, how each OE implements the systems and how to effectively approach diagnosis, key production and cutting, copying, and key registering/programming. We will talk about PINs, EEPROM, NASTF and TOOLS, as well as current industry challenges.

4:00pm – 5:00pm PST

Shop Owner/Manager Roundtable – Everyone Welcome

SUNDAY, March 24, 2024

8:30am - 11:30am PST

◆ **How to Survive, No, THRIVE in Times of Crisis**

Presented by Maylan Newton • Sponsored by ESI

Recent events have made it very difficult for most businesses. But in these times of crisis, why did some businesses grow 20% and others fail?

If we do not change and stay stuck in survival mode so that we only have enough energy to think about paying our bills or employees next month, our future will remain uncertain. Join us as we discuss why some businesses survived and thrived while others just disappeared.

◆ ■ **Presenting & Selling Diagnostics with Value**

Presented by Dave Schedin • Sponsored by ServiceIntel

This SEMINAR will EMPOWER your Service Advisors by demonstrating “HOW TO” create profitable diagnostics AND reduce the number of phone calls per job on average – by 3+ calls! PLUS – teach you HOW TO GET PAID for the diagnostics you’re doing but NOT getting paid for!

Valuable tools your advisors will learn:

- A toolbox of effective vocabulary every Advisor needs to present and sell diagnostics properly and profitably.
- Relational Selling Techniques – selling VALUE rather than price.
- How to BUILD, PRICE, PRESENT and SELL a VERY PROFITABLE Diagnostic Repair Order.
- How to use VALUE words to create a significant increase.
- The COMPUTREK 3-PART VALUE PRESENTATION SYSTEM is designed to yield an average 3.5 – 4.0+ repair order.

Most Advisors who implement and use the CompuTrek Value Presentation System earn back the seminar fees the first week and many, the first day!! These basics will jumpstart new VICTORIES and help move your company forward.

◆ ■ **Time, Technicians, Productivity**

Presented by Greg Marchand • Sponsored by ShopPros

Three of your most important assets are Time, Technicians, and Productivity. Time is what you sell, it is what your technicians produce, and it is a finite resource. It must be managed, sold, and well taken care of! Technicians are your production. They are where a majority of your money comes from. Without proper management, time is not the asset it should be. Of course technicians come with their own challenges: motivations, skill sets, communication, workmanship, etc. Time and technicians must be managed together. Productivity ties the technicians and time together. Because time is such a finite resource, each technician must be as productive as possible if the shop is to make a maximum amount of money. Managing these three assets is no always easy, nor intuitive. This class discusses how to maximize production while managing customer time, technician time, and service counter time.

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◆ **Unlocking Extraordinary Futures as a Multi-Shop Operator!**

Presented by Michael Smith • Sponsored by The Institute

So you think you are ready to transcend the conventional limits of success and enter the dynamic realm of becoming a Multiple Shop Operator? Join us for an eye-opening exploration into the fundamentals that will guide you before you take the plunge into the Multiverse of shop duplication. The era of being a multi-shop company is no longer the summit—it's just the first step toward an array of extraordinary futures that were unimaginable in our industry a mere decade ago.

Preparing to expand into a second shop demands more than just transactional knowledge—it requires a conceptual and strategic rethink. Once mastered, adding a third location becomes not only feasible but strategically brilliant. With the right approach, visionary owners and their teams can craft a future growth pipeline as vast and successful as their imagination allows. In an industry marked by retiring baby boomers, the opportunities for expansion are limitless.

Discover:

- How to shatter the glass ceilings created by old-school ideas and approaches, freeing your potential for optimal success
- The crucial fundamentals of multi-shop operations, extending beyond mere POS systems, SOPs, and timely bookkeeping
- The art of crafting championship leaders and teams—an unparalleled competitive advantage that stands the test of time

◆ ■ **Unleash Potential of Your Manager SE Shop Management System**

Presented by Tim McDonnell • Sponsored by Mitchell 1

This session will help shops streamline daily workflow processes by utilizing best practices and time-saving tips with Manager SE shop management. We will provide attendees with useful ideas for configuring Manager SE for the way they do business. Get an update on the newest features and useful shortcuts that users may not be aware of. Senior Marketing Manager Tim McDonnell has 28 years of experience with shop management software and he intends to share as much as possible with attendees at the 2024 ATE Seattle Conference.

◆ ■ **Maximizing Efficiency With Tekmetric's Shop Management Solution**

Presented by P.J Leslie & Ian Miller • Sponsored by Tekmetric

Join us for an exclusive training session featuring Tekmetric, the leading shop management system. This unique opportunity brings Tekmetric solution experts to present an in-depth class on leveraging Tekmetric's innovative software. During this immersive session, shop owners, service advisors, and potential users will explore:

- Navigating Tekmetric's Interface: Gain insights into efficiently leveraging Tekmetric's user-friendly interface, ensuring seamless integration into daily shop operations.
- Optimizing Workflow Efficiency: Learn how Tekmetric's advanced tools and features empower shops to streamline workflows, enhance productivity, and minimize operational bottlenecks.
- Data-Driven Decision-Making: Harness the power of Tekmetric's robust analytics to make informed, data-driven decisions that drive profitability and long-term success.
- Sneak peek at Innovations: New features: Witness firsthand the latest Tekmetric features, including Smart Jobs, integrated payments, new integrations, and more, setting the stage for enhanced operational capabilities.

Whether you're a seasoned user or new to Tekmetric, this session provides tailored training to equip attendees with actionable strategies for immediate implementation. Experience hands-on demonstrations, real-world case studies, and collaborative discussions, unveiling the full potential of Tekmetric's shop management system. Don't miss this exclusive chance to elevate your shop's performance and efficiency in today's competitive automotive landscape.

◆ ■ **Software Management Class – ShopWare**

Presented by TBD • Sponsored by ShopWare

Description:

● ● ☆ **Advanced Application of Electronic Theory**

Presented by Keith Perkins • Sponsored by WTI

This class is designed for all levels of technicians. Providing a quick refresher for some, and a new insight for ALL on leveraging tooling and service information to quickly and accurately diagnose a vehicle. There will be plenty of eye opening moments for even the seasoned techs on how, by using the most basic of electrical theory we can conquer even the most advanced automotive systems.

● ● **Audi & VW Diagnostics: Strategies for more Accurate & Efficient Diagnosis**

Presented by Haakin Light • Sponsored by TOPDON

This class seeks to banish the “boogeyman” that is VW and Audi diagnostics in many technicians' eyes. We go deep into where we can find training resources on these vehicles, navigation of factory service information, oem training structure and more. Fault code logic and how an ECU monitors, measures and evaluates a system is discussed in greater detail. Strategies to answer questions about system operation when there is no OEM documentation available are also provided. Practical application via case studies is conducted. Generalist shops AND European shops can benefit from this class.

● ● **Diagnosing Mechanical Engine Issues with Traditional & Untraditional Tools**

Presented by Eric Ziegler • Sponsored by WTI

The engine is the heart of the modern vehicle. Often times its diagnosis can prove to be difficult or time consuming. Moreover, the engine fault may manifest itself after an incorrect diagnosis and other service work was sold I.E. “the engine needed a ‘tune-up.’” In the case of a misfire diagnosis the time to figure out if the engine has a mechanical issue is EARLY in the diagnostic process rather than after parts have been sold and installed. Engine mechanical testing techniques will cover tools most shops have already and new time saving nontraditional testing with electronic tools. Scan data analysis will also be discussed. Mechanical issues that affect timing will be covered as well. Real world case studies will help illustrate nontraditional testing methods. The goal of this class is to introduce techs to time saving techniques to quickly identify engine mechanical issues to help avoid costly missed diagnostics.

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● ● **Diagnosis Variable Valve Timing Systems**

Presented by Mark Isaac • Sponsored by Garage Gurus

This clinic will focus on the different types of variable valve timing (VVT) systems used by vehicle manufacturers today. After multi-valve technology became standard in engine design, VVT became the next step to enhance engine output, increasing engine power and torque output along with reducing emissions. Without VVT technology, engineers previously had to choose the best compromise in valve/cam timing and ended up sacrificing one thing to gain in another area. VVT allows the best of both worlds – increased performance and economy and lower emissions. There are a multitude of Diagnostic Trouble Codes (DTCs) that can be set related to VVT faults stemming from oil contamination to inoperative cam actuators and oil control solenoids. We explain the variations of VVT systems used by manufacturers today and look at diagnostic tests that can be performed on this system using the scan tool and other diagnostic equipment to confidently diagnose these systems before the costly and labor-intensive engine teardown for service.

After completing this clinic, the student will have the knowledge to:

- Identify the VVT system types used by manufacturers
- Understand the VVT DTC stored in the Powertrain Control Module (PCM)
- Relate to the scan tool parameters used by various manufacturers to validate camshaft control and operation
- Realize the importance of lab scope testing to validate camshaft to crankshaft correlation
- Perform mechanical engine tests with a variety of test equipment to avoid timely engine teardowns for diagnostic purposes
- Utilize new scan tool information and techniques to reduce diagnostic time in the service bay for VVT related faults or symptoms

● ● **Network Communication Diagnosis**

Presented by Scott Shotton

Module communication networks have been around for quite some time. With the ever growing number of computers built into vehicles now days it is critical to understand and diagnose issues with these computer networks. Network problems range from simple to complex. Individual systems may shut down, vehicles may not start, or a vehicle may even fail a state emissions inspection with no other customer complaints. This course will cover some networking theory, communication protocols and lots of diagnostics illustrated with actual broken car case studies. A diagnostic plan of attack will be used to address networking issues. Emphasis will be placed on the “Need-to-Know” aspects of multiplexing. This class is designed to lay the ground work for network diagnostics.

- Understand the basics of computer to computer networks
- Explore proven techniques to diagnose communication issues
- Leave with a solid plan of how to attack your next communication issue

✦ **Testing Automotive RF**

Presented by Gary Smith & Adam Robertson • DiagNation/WTI

There are MANY automotive RF systems in use today. Yet there is no training on how to understand, measure and quantify the presence of RF signals across the vehicle platform. In this class, you will learn some basic RF fundamentals, and learn different tooling and cool testing methods we can use to test for RF and isolate faults. Wi-Fi, Bluetooth, TPMS, Door Lock RFA systems, GPS, Immobilizer and more are covered!

- Fundamentals of RF, what is it and How Does It Work?
- Frequency, Bandwidth Allocations for Automotive RF Systems
- Testing RF, How to Capture the Signal Out of the Air
- Testing Methods and Tooling, from Creative to Commercial Tools
- Techniques, Tips and Tricks for RF Testing