Presented By: MWACA Midwest Auto Care Alliance

# 2024 TRAINING SCHEDULE

VISION Hi-Tech Training & Expo

## 2024 Schedule of Events

**Wednesday, February 28**
3:00 PM – 7:00 PM Registration Open

**Thursday, February 29**
6:00 AM – 7:00 PM Registration Open
6:30 AM – 7:00 AM Conference Breakfast*
7:00 AM – 8:30 AM Opening General Session
8:30 AM – 5:00 PM Management & Technical Training
4:00 PM – 7:00 PM Hi-Tech Tool Expo

**Friday, March 1**
7:00 AM – 8:30 PM Registration Open
7:30 AM – 8:45 AM Educator Think Tank Breakfast
8:00 AM – 5:00 PM Technical & Educator Training
8:00 AM – 5:15 PM Management Training
11:30 AM – 1:30 PM Power Summit Management Lunch & Keynote
5:00 PM – 8:30 PM VISION Expo

** Meal functions are open to those purchasing training packages.*
*** Awards Dinner & Comedy Night Party tickets may be purchased individually. Attendees registered for a weekend training package or VISION Power Pass may purchase a ticket at a discounted rate.*

**Saturday, March 2**
6:00 AM – 6:00 PM Registration Open
6:30 AM – 7:00 AM Conference Breakfast*
7:00 AM – 8:30 AM General Session with Panel
8:30 AM – 11:30 AM Technical Training
8:45 AM – 11:45 AM Management Training
9:00 AM – 3:00 PM VISION Expo
11:30 AM – 1:00 PM Conference Lunch*
2:30 PM – 5:30 PM Technical Training
3:00 PM – 6:00 PM Management Training
6:00 PM – 7:00 PM Industry Professional's Reception
7:00 PM – 9:30 PM Awards Dinner & Comedy Night Party**

**Sunday, March 3**
7:00 AM – 7:30 AM Nondenominational Prayer Service
7:00 AM – 9:00 AM Registration Open
7:00 AM – 7:45 AM Continental Networking Breakfast*
8:00 AM – 11:00 AM Technical/Management Training

## THURSDAY, FEBRUARY 29, 2024

### Technical Training

| Code | Course Title | Begins | Ends | Instructor |
|---|---|---|---|---|
| T1-ABCD | GSTA - General Service Technician Academy - 2-day course | 8:30am | 5:00pm | Various |
| T2-AB | A/C Operation, Performance & Diagnostics *Sponsored by DENSO* | 8:30am | 5:00pm | Rick Kelley |
| T3-AB | ADAS Diagnostics and Calibration for the Repair Technician | 8:30am | 5:00pm | Mike Reynolds |
| T4-AB | Ford Drivability & Code Diagnostics *Sponsored by ATG, Driven by Repairify* | 8:30am | 5:00pm | Wally Mouradian |
| T5-AB | Hybrid Systems Diagnostics *Sponsored by ATG, Driven by Repairify* | 8:30am | 5:00pm | Chris Nosalek |
| T6-AB | Introduction to Electrical Testing (HANDS ON) *Sponsored by Vertex Professional Services* | 8:30am | 5:00pm | Michael Heyman |
| T7-AB | PicoScope 7 Techniques *Sponsored by WTI/CTI* | 8:30am | 5:00pm | Adam Robertson |
| T8-AB | Understanding and Diagnosing Automotive Circuits (HANDS ON) *Sponsored by ATech Training* | 8:30am | 5:00pm | Jim Wilson |
| T9-A | A Streamlined Approach to Diagnostic Dilemmas | 8:30am | 12:00pm | Brandon Steckler |
| T10-A | Diagnosing Gnarly Intermitting Faults: A Class on Diagnostic Strategy *Sponsored by WTI/CTI* | 8:30am | 12:00pm | Gary Smith |
| T11-A | Electricity for the Automotive Professional (HANDS ON) | 8:30am | 12:00pm | Robert Kenney |
| T12-A | Essentials to Key Cutting and Programming | 8:30am | 12:00pm | Matt Fanslow, Andrew Sexton |
| T13-A | Mobile Diagnostics 101 *Sponsored by WTI/CTI* | 8:30am | 12:00pm | Eric Ziegler, Scott Shotton |
| T14-A | Modern Diagnostic Process for Gas and Diesel *Sponsored by WTI/CTI* | 8:30am | 12:00pm | Scot Manna, David Finch |
| T11-B | Electricity for the Automotive Professional (HANDS ON) | 1:00pm | 5:00pm | Robert Kenney |
| T15-B | Driveability from the Drivers Seat - Mastering Scan Tool Data Interpretation | 1:00pm | 5:00pm | Brandon Steckler |
| T16-B | Engine Mechanical Diagnosis with Electronic Equipment *Sponsored by WTI/CTI* | 1:00pm | 5:00pm | Eric Ziegler |
| T17-B | HEV/BEV Motor Operation & Testing *Sponsored by WTI/CTI* | 1:00pm | 5:00pm | Lonnie Horn |
| T18-B | Unlocking the Power of CAN Global OBDII | 1:00pm | 5:00pm | Rick Escalambre |
| T19-B | Which Scan Tool Should I Buy? | 1:00pm | 5:00pm | Scott Shotton |

### Management Training

| Code | Course Title | Begins | Ends | Instructor |
|---|---|---|---|---|
| M1-AB | Five Star Service Advisor | 8:30am | 5:00pm | Coralee Zueff |
| M2-AB | Service Advisor Workshop: Building Customer Relationships *Sponsored by NAPA* | 8:30am | 5:00pm | Paul Marquardt |
| M3-A | Business Boss Bootcamp: From Creeper to Leader *Sponsored 180BIZ* | 8:30am | 12:00pm | Rick White |
| M4-A | How to Attract the Best *Sponsored by Shop Fix Academy* | 8:30am | 12:00pm | Aaron Stokes |
| M5-A | Successful Scheduling & Workflow Management | 8:30am | 12:00pm | Clint White |
| M6-B | Mastering the Art of Successful Communication *Sponsored by IforAbe* | 1:00pm | 5:00pm | Jimmy Lea |
| M7-B | Second in Command (Panel) | 1:00pm | 5:00pm | Moderator: Greg Bunch |
| M8-B | Transitioning Your Business: *Sponsored by Paar Melis* | 1:00pm | 5:00pm | Hunt Demarest |
| M26-B | Unleashing the Power of Technician Mentoring *Sponsored by ATI* | 1:00pm | 5:00pm | Jim Bennett |

**BACK BY POPULAR DEMAND!!** Get the most out of your investment. Attend the exclusive Hi-Tech Tool Expo to provide you additional time with diagnostic and scan tool vendors.

**HI-TECH TOOL EXPO** featuring today's top scan tools & diag equip

**Thursday, February 29, 2024 · 4-7pm** Convention Center Upper Level

www.visionkc.com

**Schedule subject to change. Check website for latest schedule and availability.** *as of 11/10/2023*

Presented By: MWACA Midwest Auto Care Alliance

# 2024 TRAINING SCHEDULE

## FRIDAY, MARCH 1, 2024

## Technical Training

| Code | Course Title | Begins | Ends | Instructor |
|---|---|---|---|---|
| T1-ABCD | GSTA- General Service Technician Academy - 2-day course | 8:00am | 5:00pm | Various |
| T6-CD | Introduction to Electrical Testing (HANDS ON) *Sponsored by Vertex Professional Services* | 8:00am | 5:00pm | Michael Heyman |
| T20-CD | Diagnostics 101 | 8:00am | 5:00pm | Jim Wilson |
| T21-CD | EV Bumper to Bumper (HANDS ON) | 8:00am | 5:00pm | Robert Kenney |
| T22-CD | Ford 6.7L Powerstroke Engine Performance & Emissions *Sponsored by ATG, Driven by Repairify* | 8:00am | 5:00pm | Eric Walker |
| T23-CD | Hands-on PicoScope *Sponsored by WTI/CTI* | 8:00am | 5:00pm | Scott Shotton, Matt Fanslow |
| T24-CD | Network Nightmares: Solving the Diagnostic Distress *Sponsored by WTI/CTI* | 8:00am | 5:00pm | Gary Smith, Adam Robertson |
| T25-CD | Pressure Waveform Acquisition and Analysis - From the Inside Out | 8:00am | 5:00pm | Brandon Steckler |
| T26-CD | Transmission In-Car Diagnostics *Sponsored by ATG, Driven by Repairify* | 8:00am | 5:00pm | Bryan Perrin |
| T79-CD | BMW Information Systems. TIS, ISTA, & AIR | 8:00am | 5:00pm | Justin Morgan |
| T27-C | Communication Issues U Codes and Network Diagnostics *Sponsored by WTI/CTI* | 8:00am | 12:00pm | Eric Ziegler |
| T28-C | Conquering Network Diagnostics *Sponsored by WTI/CTI* | 8:00am | 12:00pm | Rich Falco |
| T29-C | Hybrid & Electric Vehicle Service: An Introduction *Sponsored by WTI/CTI* | 8:00am | 12:00pm | Lonnie Horn |
| T30-C | Labscope Power User *Sponsored by Standard Motor Products* | 8:00am | 12:00pm | Standard Motor Products |
| T31-D | Automotive Electronics for Today's Vehicles *Sponsored by Dorman* | 1:00pm | 5:00pm | Jerry "G" Truglia |
| T32-D | EV Batteries and Charging Solutions *Sponsored by Autel* | 1:00pm | 5:00pm | John Forro |

## Educator Think Tank (Train the Trainer)

| Code | Course Title | Begins | Ends | Instructor |
|---|---|---|---|---|
| E1-C1 | Breakfast & Educator Think Tank General Session w/ Awards | 7:30am | 8:45am | - |
| E2-C2 | Level Up Your Instruction: Advanced Presenting Techniques | 9:00am | 12:00pm | Oscar Gomez |
| E2-C3 | Shop-Made Tools for Scope-Based Diagnostics as a Learning Tool | 9:00am | 12:00pm | Sean Boyle |
| E3-D1 | Using Analogies to Teach Automotive Technology | 1:00pm | 5:00pm | Jim Morton |
| E3-D2 | You Teach, Why Do Students Not Learn? (HANDS ON) *Sponsored by ATech Training* | 1:00pm | 5:00pm | Sam Houston |

## Management Training

| Code | Course Title | Begins | Ends | Instructor |
|---|---|---|---|---|
| M2-CD | Service Advisor Workshop: Building Customer Relationships *Sponsored by NAPA* | 8:00am | 5:15pm | Paul Marquardt |
| M9-C | 10 Steps to Succession and Secure Retirement *Sponsored by O'Reilly Auto Parts* | 8:00am | 11:30am | Jim Saeli |
| M10-C | Speak Up! Effective Communication *Sponsored by Autoflow* | 8:00am | 11:30am | Chris Cloutier / Craig O'Neill |
| M11-C | Superior Service Advising: The Art of Trust-Based Selling *Sponsored by WTI/CTI* | 8:00am | 11:30am | Greg Bunch |
| M12-C | What If: Preparing Your Shop for Your Unexpected Absence(Panel) *Sponsored by Paar Melis* | 8:00am | 11:30am | Moderator: Hunt Demarest |
| | Lunch & Power Summit Keynote *(all management attendees will be automatically reg'd for this session)* | 11:30am | 1:30pm | |
| M13-D | 10x Turbocharge Your Life and Business *Sponsored by WTI/CTI* | 1:45pm | 5:15pm | Greg Bunch |
| M14-D | Automotive Financial Mastery: Navigating Business Success *Sponsored by Elite* | 1:45pm | 5:15pm | Joe Marconi |
| M15-D | Mastering the Automotive Sales Process: A Workshop for Service Advisors *Sponsored by WTI/CTI* | 1:45pm | 5:15pm | Jeremy O'Neal |
| M16-D | Rev Up Your Marketing with Video Advantage *Sponsored by Shop Marketing Pros* | 1:45pm | 5:15pm | Brian Walker, Chris Enright |

VISION Hi-Tech Training & Expo

NEW DATE! Now on Thursday!



## DON'T MISS THESE EVENTS

**THURSDAY OPENING GENERAL SESSION**

**ED MYLETT**
KEYNOTE SPEAKER

**FRIDAY POWER SUMMIT LUNCH**

**SCOTT STRATTEN**
KEYNOTE SPEAKER




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Schedule subject to change. Check website for latest schedule and availability. as of 11/10/2023

Presented By: MWACA Midwest Auto Care Alliance

# 2024 TRAINING SCHEDULE

VISION Hi-Tech Training & Expo

## SATURDAY, MARCH 2, 2024

### Technical Training

| Code | Course Title | Begins | Ends | Instructor |
|---|---|---|---|---|
| T34-E | ADAS: Successful Calibrations and Troubleshooting *Sponsored by WTI/CTI* | 8:30am | 11:30am | Keith Perkins |
| T35-E | Assembling the Diagnostic Driveability and Electrical Puzzle Pieces | 8:30am | 11:30am | Jim Morton |
| T36-E | Automotive Module Programming *Sponsored by TOPDON* | 8:30am | 11:30am | Haakan Light |
| T37-E | Brake Technology *Sponsored by BOSCH* | 8:30am | 11:30am | Chris Ellington |
| T38-E | CAN BUS Communication *Sponsored by Dorman* | 8:30am | 11:30am | Ken Zanders |
| T39-E | Diagnosing and Repairing Diesel Aftertreatment *Sponsored by O'Reilly Auto Parts* | 8:30am | 11:30am | Wayne Bishop |
| T40-E | Diagnosing Fords using IDS and RDRS Laptop Based Scan Tools *Sponsored by WTI/CTI* | 8:30am | 11:30am | Eric Ziegler |
| T42-E | European Smart Charging Systems *Sponsored by NAPA* | 8:30am | 11:30am | Scott Townsend |
| T43-E | EVAP Diagnostics *Sponsored by Standard Motor Products* | 8:30am | 11:30am | Standard Motor Products |
| T44-E | GM Engine Controls-New Technologies *Sponsored by Standard Motor Products* | 8:30am | 11:30am | Standard Motor Products |
| T45-E | Modern Advanced Multispeed Automatic Transmissions | 8:30am | 11:30am | Sean Boyle |
| T46-E | Pinpointing the Reason for Incomplete Monitor Tests | 8:30am | 11:30am | Rick Escalambre |
| T47-E | TECHtalks | 8:30am | 11:30am | Moderator: Matt Fanslow |
| T48-E | Tesla Service Essentials *Sponsored by NAPA* | 8:30am | 11:30am | John Barclay |
| T41-E | Toyota/Lexus Diagnostics *Sponsored by O'Reilly Auto Parts* | 8:30am | 11:30am | Luis Ruiz |
| T49-E | Understanding Plug-In Charging Systems | 8:30am | 11:30am | Jack Rosebro |
| T50-F | ADAS Cameras, Radar and Ultrasonic Sensors *Sponsored by Vertex Professional Services* | 2:30pm | 5:30pm | Rick Cannistra |
| T51-F | Advanced Oscilloscope Engine Testing *Sponsored by Garage Gurus* | 2:30pm | 5:30pm | Mark Kenyon |
| T52-F | Air Conditioning Tips & Techniques *Sponsored by Standard Motor Products* | 2:30pm | 5:30pm | Marc Dufort |
| T53-F | Data, Data Everywhere *Sponsored by Snap-on Diagnostics* | 2:30pm | 5:30pm | Jason Gabrenas |
| T54-F | Diesel Emissions Operation, Diagnosis, and Repair *Sponsored by ACDelco* | 2:30pm | 5:30pm | Rusty Sampsel |
| T55-F | Domestic Driveability Diagnostics *Sponsored by WTI/CTI* | 2:30pm | 5:30pm | John Thornton |
| T56-F | Engine Management 101 | 2:30pm | 5:30pm | Jim Wilson |
| T57-F | Enhanced Air/Fuel Diagnostics *Sponsored by NAPA* | 2:30pm | 5:30pm | Curt Eigenberger |
| T58-F | EV Drivetrain Operation & Diagnosis *Sponsored by Vertex Professional Services* | 2:30pm | 5:30pm | Michael Heyman |
| T59-F | Ford Gas Vehicles *Sponsored by Standard Motor Products* | 2:30pm | 5:30pm | Standard Motor Products |
| T60-F | J-2534 Domestic Programming *Sponsored by WTI/CTI* | 2:30pm | 5:30pm | Keith Perkins |
| T61-F | Modern AC Diagnosis & Repair *Sponsored by O'Reilly Auto Parts* | 2:30pm | 5:30pm | Wayne Bishop |
| T62-F | Modern Electronic Steering and Suspension *Sponsored by NAPA* | 2:30pm | 5:30pm | Randy Cowan |
| T63-F | Powertrain Electronics *Sponsored by Standard Motor Products* | 2:30pm | 5:30pm | Standard Motor Products |
| T64-F | Tesla Model 3 and Y Technical Review | 2:30pm | 5:30pm | Jack Rosebro |
| T65-F | Unlocking the Power of OBDII: 10 Modes of OBDII with Mode $06 | 2:30pm | 5:30pm | Oscar Gomez |

### Management Training

| Code | Course Title | Begins | Ends | Instructor |
|---|---|---|---|---|
| M17-E | Financial Statement Bootcamp *Sponsored by Kaizen CPA* | 8:45am | 11:45am | Eric Joern |
| M18-E | How to Run Your Shop Stress-Free *Sponsored by Shop Fix Academy* | 8:45am | 11:45am | Aaron Stokes |
| M19-E | Overcoming Objections in a Different Economy *Sponsored by IforAbe* | 8:45am | 11:45am | Mark Seawell |
| M20-F | Creating the Ultimate Customer Experience *Sponsored by Elite* | 3:00pm | 6:00pm | Tom Amero |
| M21-F | Get a Grip! Mastering Organizational Skills and Time Management *Sponsored by WTI/CTI* | 3:00pm | 6:00pm | Kim Auernheimer |
| M22-F | Pricing, Profitability, and Adaptation for the Modern Auto Repair Shop *Sponsored by WTI/CTI* | 3:00pm | 6:00pm | Jeremy O'Neal |

**VISION EXPO**
featuring today's top scan tools & diag equip
60,000 square feet of exhibits!

**Friday 5-8:30pm**
**Saturday 9am-3pm**

$50 with Weekend or Power Pass

**Awards Dinner & Comedy Night**
**Saturday, March 2, 2024 · 7-9:30pm**
Join us for a night of celebration, recognizing individuals achieving excellence, while enjoying a night of laughter!

www.visionkc.com

Presented By: MWACA Midwest Auto Care Alliance

# 2024 TRAINING SCHEDULE

## SUNDAY, MARCH 3, 2024

### Technical Training

| Code | Course Title | Begins | Ends | Instructor |
|---|---|---|---|---|
| T66-G | Automotive Electrical and Drivability Diagnostics | 8:00am | 11:00am | Oscar Gomez |
| T67-G | Basic Alignment *Sponsored by BOSCH* | 8:00am | 11:00am | Chris Ellington |
| T68-G | Critical Thinking - Diagnostic Strategies "2024" *Sponsored by O'Reilly Auto Parts* | 8:00am | 11:00am | Jerry "G" Truglia |
| T69-G | EVAP System Operation & Diagnosis *Sponsored by Vertex Professional Services* | 8:00am | 11:00am | Rick Cannistra |
| T70-G | Ghost Buster Electrical Tips for High & Low Voltage Circuit *Sponsored by Delphi* | 8:00am | 11:00am | Dave Hobbs |
| T71-G | Hybrid and EV - AC Diagnostics *Sponsored by NAPA* | 8:00am | 11:00am | Bill Weaver |
| T72-G | Hybrid Vehicle Maintenance Procedures *Sponsored by ACDelco* | 8:00am | 11:00am | Rusty Sampsel |
| T73-G | J-2534 Asian Programming Update *Sponsored by WTI/CTI* | 8:00am | 11:00am | Keith Perkins |
| T74-G | Light Duty Diesel Emissions | 8:00am | 11:00am | Robert Kenney |
| T75-G | Misfire Diagnosis *Sponsored by Dorman* | 8:00am | 11:00am | Ken Zanders |
| T76-G | Scan Data Diagnostics with Fuel Trim and More *Sponsored by WTI/CTI* | 8:00am | 11:00am | Scott Shotton |
| T77-G | Timing Chain Advanced Diagnostics Using Scopes, Transducers, and Scan Tools *Sponsored by NAPA* | 8:00am | 11:00am | Robert Descalzo |
| T78-G | Diagnosing Mercedes-Benz Vehicles: Mercedes Diagnostic Tips and Tricks *Sponsored by WTI/CTI* | 8:00am | 11:00am | Gary Smith |

### Management Training

| Code | Course Title | Begins | Ends | Instructor |
|---|---|---|---|---|
| M23-G | Creating Loyal Customers: Making Them Feel Special *Sponsored by Shop Marketing Pros* | 8:00am | 11:00am | Kim Walker |
| M24-G | Profit Structuring and Business Analysis *Sponsored by ESI Seminars* | 8:00am | 11:00am | Maylan Newton |
| M25-G | Service Advisor Success Blueprint: Mastering Communication | 8:00am | 11:00am | Bill Haas |

**Schedule subject to change. Check website for latest schedule and availability.** *as of 11/10/2023*

Early Bird Savings End Dec 29th

## 2024 Registration Package Pricing

**Thursday All-Day Package**

Thursday Courses, Thursday General Session & Breakfast, Refreshment Breaks, Lunch, and Expo Registration.

| Early Bird | Regular |
|---|---|
| $250 | $260 |

**Friday All-Day Package**

Friday Courses, Refreshment Breaks, Lunch, and Expo Registration.

| Early Bird | Regular |
|---|---|
| $240 | $250 |

**Weekend Training Package**

All Management and/or Technical Courses offered Sat. & Sun., Refreshment Breaks, Saturday General Session, Breakfast & Lunch Sunday Breakfast, and Expo Registration.

***BONUS...Add Awards Dinner/Comedy Night for only $50***

| Early Bird | Regular |
|---|---|
| $430 | $450 |

**4-Day Power Pass**

4 days of Management and/or Technical Courses Refreshment Breaks, Thursday General Session & Breakfast, Thursday Lunch, Friday Continental Breakfast & Lunch, Saturday General Session & Breakfast, Saturday Lunch, Sunday Continental Breakfast. Also includes Expo Registration.

***BONUS...Add Awards Dinner/Comedy Night for only $50***

| Early Bird | Regular |
|---|---|
| $750 | $775 |

**TRAINING COURSE SELECTION:** Selections must be made in advance and are available on a first-come, first-served basis. Registration for individual courses are not available until February 5, 2024.

**MEALS:** Breakfast is served in conjunction with a general session and keynote address. See package details for meal information.

**INDIVIDUAL MEALS & COURSES:** Individual course registration opens Monday, February 5. The cost for each 3 or 4 hour session is $135. Tickets for Thursday breakfast, Saturday breakfast, and Sunday breakfast may be purchased for $35 each.

**MWACA Member Discounts:** MWACA Members registering by Friday, December 29th receive a $25 discount on Weekend and Power Pass Packages.

**PHOTOGRAPHY / AUDIO / VISUAL RECORDINGS:** By registering you agree to our Photography/Audio/Visual Recordings policy. See website for more details.

**AWARDS DINNER & COMEDY NIGHT:** Weekend Package and Power Pass attendees have the option to add this event to their package for only $50. Non-package attendees may purchase tickets for $65 each. Tickets are limited so early registration is encouraged.

**REGISTRATION & PAYMENT:** To register, please complete the online registration form at www.visionkc.com. We cannot guarantee availability for late or on-site registrants. A confirmation letter and detailed conference information will be e-mailed in late-February.

**CANCELLATION AND REFUND POLICY:** Full refunds will be granted, less a $50 processing fee, if cancellation is received in writing by February 1, 2024. No refunds will be granted after February 1, 2024. Name substitutions will be accepted. A purchase protection plan will be available during registration for a full refund if needed and must be purchased at the time of your registration. You can review plan details upon checkout.

VISION Hi-Tech Training & Expo

www.visionkc.com




## EDUCATOR THINK TANK COURSES

### Level Up Your Instruction: Advanced Presenting Techniques (E2-C2) *by Oscar Gomez*

This workshop is tailored to automotive instructors who want to enhance their presentation skills. Whether you're teaching a class, conducting workshops, or delivering j to your colleagues, effective communication is key to imparting knowledge successfully. In this workshop, you'll learn how to connect with your audience, adapt to different learning styles, and master the art of confident and engaging presentations. We'll cover topics such as understanding types of learners, body language, comfortable pausing, voice tonality, and hand movements.

### Shop-made tools for scope-based diagnostics as a learning tool (E2-C3) *by Sean Boyle*

From vibration analyzers, pulse sensors, pressure transducers, and parasitic load detection. Shop made sensors can not only save the school money, but the learning experiences for the students are second to none. In this session, I will demonstrate the construction and use of these shop-made tools and share examples of applications for their use.

### Using Analogies to Teach Automotive Technology (E3-D1) *by Jim Morton*

Automotive students can be overwhelmed while trying to learn and understand Automotive Technology, by referring back to something that they already understand, the lesson will make sense to them for a much better understanding. An example is the ignition timing event must happen at the right time just like riding a bicycle and when to push down hard on the pedal for maximum power.

### You Teach, Why Do Students Not Learn? (E3-D2) *by Sam Houston*

Has a student asked you a question that you already answered five minutes ago? Why do students not grasp the concepts you delivered the first time? This course will analyze learning issues and discuss new approaches to classic automotive tasks. Learn how to use ATech's Classroom Management Program to enhance the hands-on learning experience. Participants will walk away with strategies for setting up quality lab training exercises that will increase your student's daily engagement.
Sponsored by ATech Training

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## MANAGEMENT TRAINING COURSES

### 10 Steps to Succession and Secure Retirement (M9-C) *by Jim Saeli*

Learn critical steps to prepare for retirement while protecting your legacy for your shop, your customers, your employees, and your family.
In this workshop you will learn:
- How to enjoy your golden years with security and peace of mind
- How to turn your business over to your children or an employee without blowing up your retirement
- How to enjoy more free time and peace of mind with effective succession planning
- How to determine exactly what you need to retire
- Why selling your shop almost never completely funds your retirement

- How to identify the critical steps you must take in the last 5-years before you retire
- How to avoid the critical mistake that forces shop owners to work in their business forever

Topics Covered
- Legacy
- Exit scenarios
- Questions & decisions
- Steps of succession

Sponsored by O'Reilly Auto Parts

### 10X Turbocharge Your Life and Business (M13-D) *by Greg Bunch*

"10X: Turbocharge Your Life and Business" is an invigorating and intensive workshop designed for ambitious auto shop owners seeking exponential growth in both their personal and professional spheres. This course is tailored to the bold and driven, ready to shift gears and accelerate their journey to unprecedented heights of success.

Key Takeaways:

• Exponential Mindset: Discover how to cultivate an exponential mindset that propels you to visualize and aim for significant growth, not just incremental improvements, in your auto shop and life.

• Leveraging Unique Strengths: Identify your distinctive strengths and learn how to maximize them for peak performance. Understand how your individual talents can translate into innovative services that attract customers and drive business growth.

• Balanced Time Management: Uncover a unique system to manage your time effectively, ensuring a balance between rejuvenation, strategic planning, and high-quality work. Learn how to keep your productivity in high gear without compromising on personal time.

• Emphasizing Positivity: Explore the power of positive thinking and focusing on your accomplishments to propel personal and professional growth. Learn to appreciate your achievements and use them as a springboard to set and attain higher goals.

• Realistic Success Measurement: Master the art of measuring success against your own progress, not against some ideal that's always out of reach. This approach fosters a mindset of continuous achievement and satisfaction.

Who Should Attend:

This workshop is perfect for auto shop owners, managers, and aspiring automotive industry entrepreneurs seeking more than just business success. It's for those who desire personal fulfillment, and a balanced lifestyle and believe in the power of their auto shop to be a platform for achieving personal goals and impacting their community positively.

Unleash your potential, supercharge your business, and accelerate your life journey with the 10X workshop. It's not just about reaching your destination; it's about enjoying the ride!

Sponsored by WTI / CTI

### Automotive Financial Mastery: Navigating Business Success (M14-D) *by Joe Marconi*

Automotive Financial Mastery: Navigating Business Success is a comprehensive training program designed to equip repair shop owners, managers, and automotive enthusiasts with the financial expertise to excel in the competitive automotive industry. This course delves deep into the intricacies of financial management, tailored specifically for the automotive repair sector. Participants will develop a firm grasp of financial statements, analysis techniques, budget formulation, pricing strategies, efficient cash flow management, and more. Through a blend of theoretical knowledge, hands-on exercises, and real-world case studies, participants will emerge as adept decision-makers capable of steering their repair shop enterprises towards sustained growth and prosperity.

Sponsored by Elite

### Business Boss Bootcamp: From Creeper to Leader (M3-A) *by Rick White*

Most shop owners start out as a technician and then become an advisor. It doesn't take long to realize that you can't manage the shop from a creeper and you can't lead it from the front counter. So you take the leap and start working "on" your business instead of "in" your business. That's what you're supposed to do right?  Now you feel completely lost and uncomfortable. Like you're not contributing to your business the way you used to.  Does any of this description sound like you? Then this class is for you! This class will show you how to lead your business in a way you KNOW you are not just contributing but guaranteeing your success long into the future. We will talk about how to lead for tomorrow - not just manage your business for today.

You'll learn
- Why the transition is so hard and it's normal!
- The 9 Primary Responsibilities you have in your business

- What to do on an daily, weekly and annual basis to take you and your business to the next level
You'll leave this session feeling more confident, more in control, and excited for what your future holds.
Sponsored by 180BIZ

### Creating Loyal Customers: Making Them Feel Special (M23-G) *by Kim Walker*

Your customers are being bombarded with marketing from your competition - and everyone else! Not only do you need to stay top of mind, but you can keep your customers coming back to you over and over by making them feel special.
In this class, former teacher, counselor and shop owner Kim Walker will share easy, clever and creative ways that you can connect with your customers so that they would never think of going anywhere else.
After taking this session, you will:
-appreciate even more the idea of customer loyalty
-have new ideas for fostering customer loyalty
-understand how to implement ideas that make your customers feel special
-connect customers feelings with your marketing
Sponsored by Shop Marketing Pros

### Creating the Ultimate Customer Experience (M20-F) *by Tom Amero*

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 Hannah Kennedy and Tom Amero from Elite Worldwide as we discuss strategic approaches to improve your Customer Experience (CX). With over 20 years in customer facing roles and 10 in the automotive industry, Hannah Kennedy is a shop owner and a great source of knowledge in cultivating a welcoming environment for guests. In his role as Business Performance Analyst at Elite, Tom has worked with hundreds of shops and owners to help create successful business-to-customer interactions and has 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!
Sponsored by Elite

### Financial Statement Bootcamp (M17-E) *by Eric Joern*

If you know what's broken, you know what to fix. As a shop owner, you know this when it comes to auto repair. You ought to have that same certainty when it comes to your financials. Stop relying on "best guesses" when making decisions for your business. Learn how the activities in your shop impact your financials — bring your P&L, Balance Sheet and Shop Management Reports and we'll review best practices for formatting your chart of accounts, accounting for revenue, parts cost, and labor cost, and generating reports from QuickBooks Online. Shop owners, managers, and other staff attending this course should have at least a baseline knowledge of the current financial statements and financial activities of the shop.
When you know your numbers, you make better decisions.
Note: Sample Financial Statement & Processes will be demonstrated using QuickBooks Online. Shop Management System for demonstration will be Tekmetric. Other accounting and shop management systems should translate.
Sponsored by Kaizen CPA

### Five Star Service Advisor (M1-AB) *by Coralee Zueff*

As the author of Amazon's best seller Five Star Service Advisor, Coralee's training brings the book to life. Shops can have the best technicians but when the service advisor lacks the technician knowledge and communication skills, the shop looses profit and have increased conflict. With her 21 years in the automotive industry, she will guide participants through all aspects of service advising. Your advisor will learn strategies to understand technical diagnosis, how to educate the customer about their repairs and get more work approved. Her proven method of communication  virtually eliminates upset customers. And how about those "annoying" price shoppers? Coralee will teach her strategy to save the advisors precious time and book appointments.

### Get a Grip! Mastering Organizational Skills and Time Management (M21-F) *by Kim Auernheimer*

Get a grip! Is Chaos your daily norm?  By mastering your mess and taking control of the seconds, minutes, and hours of your day, you can Increase productivity and profitability using proven organizational and time management skills. You will get more done

each day and you'll get more out of your business and your life. Be in control and reduce stress by fine-tuning your organizational skills. This class is essential for Shop Owners, Management, Service advisors, and Office staff.
- Discover Organization and Time Management Tools that are in the Palm of your Hand
- Identify "Time Robbers" and how to put them away forever
- Experience how working more efficiently makes it easier to reach a common goal.
- Learn how to control the clutter and clear away the chaos
- Discover ways to minimize distractions and maximize your effectiveness

Sponsored by WTI / CTI

### How to Attract the Best (M4-A) *by Aaron Stokes*

We are experiencing one of the most challenging hiring markets in recent history. To succeed, we must pivot how we go about recruiting and hiring. In this session, Aaron will give you the "right-now" methods and strategies that are helping owners across the country find the very best employees. This class will cover creating and executing effective ads, interview skills for landing top performers, proactive outreach, designing a business that great employees WANT to work for, and much more.

Sponsored by Shop Fix

### How to Run Your Shop Stress-Free (M18-E) *by Aaron Stokes*

Anyone who's been in auto repair for any time knows how stressful ownership can be! The truth is that this shouldn't be normal. In this training, Aaron will give you the secrets he's learned over the years on designing your shop to run without the chaos and stress most experience.

Sponsored by Shop Fix Academy

### Mastering the Art of Successful Communication (M6-B) *by Jimmy Lea*

A journey to success. What would you be willing to do in your business to be top-of-mind when your customer needs you? In this training you will learn how to communicate with specific personality types in ways that are super easy to execute. Knowing your customers motivational mindset gives you the advantage of creating intentional copy & content that targets their particular perspectives and drives them to your shop. Learn the specific scripts for phone calls, emails, text messaging, and post-cards that speak to them on a deeper level.

Sponsored by IforAbe

### Mastering the Automotive Sales Process: A Workshop for Service Advisors (M15-D) *by Jeremy O'Neal*

Service advisors are the frontline sales force for every auto repair shop. Your ability to professionally handle leads, consult with customers, present recommended repairs, and overcome objections is essential to your shop's success. This intensive 1-day workshop provides the sales skills your team needs to convert more shoppers into satisfied customers who approve profitable repairs.

In this highly interactive training, attendees will:
Master lead conversion tactics for phone, digital, and in-person inquiries
Learn vehicle intake best practices to pre-qualify customers
Practice transparent inspection processes to build trust
Deliver powerful presentations focused on client benefits
Handle objections and finesse customers beyond the initial "no"
Develop permission-based selling skills to gain customer buy-in
Create personalized action plans to implement back at their shop

With dedicated sections tailored specifically for service advisors, this workshop blends industry-specific instruction with the latest in sales psychology and communication techniques. Attendees gain confidence in guiding customers through our proven sales workflow. Role-playing exercises and small group discussions reinforce the skills and concepts covered.

Your team faces customers who are skeptical, cautious with their money, and barraged with options. Equip them with the knowledge and abilities to rise above the noise. Instead of competing on price, learn to compete on world-class service. Invest in your advisors by registering today for this intensely practical sales mastery experience.

Sponsored by WTI / CTI

### Overcoming Objections in a Different Economy (M19-E) *by Mark Seawell*

Knowing and navigating the What behind the "NO!" As Advisors, we're the voice for that poor vehicle, advocating for its necessary care to a customer who's less than enthused to be there in the first place. We are the designated champions going to war to get those desperately needed repairs, so it has the best chance at survival. All the more upsetting when a customer tells us "NO!", when all we wish to do is help get them quickly, and safely, back on the road. Most of the time it's for an intangible reason, something that stems from an emotional and vulnerable place. However, we often incorrectly categorize the objection as a tangible. In this workshop you will learn how to correctly identify an objection, categorize it, and then use specific tools to target and overcome. In this class, Advisors will learn to become better communicators, handle objections with care and consciousness, and become more confident when someone gives them pushback on necessary repairs for their vehicle.

Sponsored by IforAbe

### Pricing, Profitability, and Adaptation for the Modern Auto Repair Shop (M22-F) *by Jeremy O'Neal*

Today's vehicles are more complex than ever, with sophisticated drivetrain systems, onboard computers, and high-tech features. Diagnosing issues accurately requires advanced skills, specialized tools, and lots of time spent in methodical troubleshooting. This increased complexity has drastically changed repair requirements and the profit structure of auto shops over the last decade. This class provides concrete strategies for repair shops to thrive in the new automotive service landscape. Learn how to accurately price labor for invisible services like in-depth diagnoses, computer reprogramming, and electrical fault testing. Discover new potential profit centers emerging from vehicle complexity, like software upgrades, subscription services, and data management. We'll discuss how to communicate the value of diagnostic work to customers clearly. Attendees will leave prepared to update their pricing models, maximize technician efficiency, and adapt their shop's offerings to take advantage of industry trends and innovations. With instructive examples drawn from real-world experience, this class gives owners, managers, and technicians insights into building a profitable shop with satisfied customers for years to come. Attendees will learn how to:

Price labor hours accurately for complex drivetrain, electrical, and computer diagnostics
Identify new profit opportunities in data-driven and software-based vehicle service
Improve labor efficiency with shop flow and technician training
Communicate diagnostic and repair value transparently to customers
Adapt to rapid changes in vehicle technology and service requirements
Position your shop for long-term viability amid industry disruption
Invest in your shop's future success - join us for this intel-packed class on profitability, transparency, and adaptation in the evolving automotive repair industry.

Sponsored by WTI / CTI

### Profit Structuring and Business Analysis (M24-G) *by Maylan Newton*

This Seminar comes from years of experience and the understanding that without a good foundation, most business owners/managers spend too much time trying to hold up the walls themselves instead of making money. Understand, this is generally not out of lack of desire or dedication but rather simply that most of us were great Technicians before we decided to open our businesses. Still, we had little experience or training in business. The information in this Seminar is what we should have had before we opened our doors!

This Seminar will be coving these important topics:

- Reading & Understanding your Profit & Loss statements
- How to determine your True Cost of Being Open
- We'll show you how to determine you're Per Hour Charge or Labor Rate
- And determine what you are actually Charging Per Hour
- Production and how it affects profit
- How to mark your parts up
- Understanding gross profit

Sponsored by ESI Seminars

### Rev Up Your Marketing with the Video Advantage (M16-D) *by Brian Walker, Chris Enright*

You've heard time and time again how vital using video is for your shop's marketing. Maybe you've jumped on the bandwagon but maybe you haven't. Whether you have or haven't there are some video strategies you can benefit from hearing.

Video extraordinaire shop owner Chris Enright and former shop owner, now marketer, Brian Walker join forces to bring you the best video education and knowledge there is!
Leave this powerful session having learned from the best. The topics include:
-Understanding the difference between long and short video formats
-Which video platforms are important for shop owners
-Knowing the content your audience will engage with
-How to track your video performance
-A hands-on section to help you get started!
-And more!
Register for this engaging and impactful class today! Start doing great videos tomorrow!
Sponsored by Shop Marketing Pros

### Second in Command (Panel) (M7-B) *by Greg Bunch*

Ready to take your auto repair shop to the next level? Join us for a panel discussion that will change the way you think about leadership and teamwork in your business. Learn from the best – successful shop owners and their trusted seconds-in-command – as they share real-life stories of transformation, challenges, and triumphs. Discover the power of a strong leadership duo – the visionary leader with big ideas and the detail-oriented manager who turns those ideas into reality. This session will dive into practical strategies to build and nurture this partnership, driving efficiency, clear communication, and growth.
Why This Session Is a Must-Attend:

- Real Stories from the Front Lines: Gain insights from shop owners who've been in your shoes, sharing their journey of building a winning leadership team.
- Actionable Takeaways: Walk away with practical advice and strategies to enhance teamwork and drive success in your shop.
- Live Q&A: Get answers to your questions directly from experienced professionals who've seen it all.
- Networking Opportunities: Connect with fellow shop owners and managers, opening doors to collaboration and shared learning.

Who Should Be There: Whether you run a single-location shop, or you're looking to expand and build an empire, this session is designed for you. If you're ready to step back and focus on the big picture, trusting your team to handle the day-to-day, this is a session you can't afford to miss.
Sponsored by Transformers Institute

### Service Advisor Success Blueprint: Mastering Communication (M25-G) *by Bill Haas*

Gain the essential skills to excel as a service advisor. This course covers the key elements of successful communication, enabling you to establish strong connections with both customers and technicians. As a service advisor, effective communication is paramount to building trust, providing exceptional customer experiences, and ensuring smooth interactions with technicians. Learn practical strategies for engaging with customers in a customer-centric manner, understanding their needs, and delivering solutions that exceed their expectations. Learn how to foster seamless communication with technicians, ensuring clear and efficient service workflows. Explore techniques to relay customer requirements accurately and facilitate open dialogue, allowing for optimal collaboration between service advisors and technicians. Now, you have a comprehensive blueprint to navigate the complexities of service advisor communication. Be equipped to create a positive impact on both your customers' experiences and your service team's effectiveness.

### Service Advisor Workshop: Building Customer Relationships - It Starts and Stops at the Front Counter (M2-AB) (M2-CD) *by Paul Marquardt*

Our industry has changed drastically, and what we did in the past does not work today. Our clients are looking for more transparency and better communication through digital platforms. By properly communicating their needs in-person, on the telephone, or through digital media (such as text, email, and digital vehicle inspections), we are building trusting client relationships. Don't give your customers a reason to use Google to get information about their vehicle; YOU are the expert!
Seminar Takeaways:

- Build a relationship with your customers
- Speak and write like a consumer instead of a technician
- Enhance your telephone and face-to-face skills

- Use six steps to build the foundation of a trusting relationship
- Learn how to convert the price-shopper

Sponsored by NAPA

### Speak Up! Effective Communication (M10-C) *by Chris Cloutier*

Glossophobia, the fear of public speaking, is a fear experienced by 76% of all people. For many, it is a fear even greater than the fear of death. Do you feel anxiety around speaking in public, conducting team meetings, or doing in-person (or online) presentations? Have you turned down an invitation to share your story, thoughts, or ideas in a podcast or interview? Does speaking in front of your team make you feel anxious, or exhausted when finished? Are you unafraid but looking for ways to improve your speaking skills?

This session will be engaging for all attendees according to their comfort level, and benefit anyone looking to improve their communication skills, enhance their leadership and build stronger relationships.

Topics will include:

- Speaking techniques
- How to give and receive useful feedback
- How to prepare and deliver a short, planned speech.
-Impromptu/Extemporaneous speaking opportunities throughout.

At the conclusion of this course, you will be well on your way to becoming a more effective leader and ambassador for our industry.

Sponsored by Autoflow

### Successful Scheduling & Workflow Management (M5-A) *by Clint White*

Is your shop overwhelmed with appointments and with sold work? Are you struggling to source parts & complete repairs on-time? Are you constantly over-promising and under-delivering? For many in our industry this is the case and there seems to be no end in sight. In fact, it goes without saying that the world around us has changed drastically in the last few years however for many shops, the methodology regarding scheduling and workflow management remains the same. The purpose of this class is to educate Service Advisors and Shop Owners on how to properly set expectations with your customers and successfully schedule repairs and service in a way that is more practical, profitable and productive; resulting in fewer come-backs, on-time repairs, and an elevated customer experience. Don't pass up this opportunity to refine your process and move your business forward in today's "new normal".

### Superior Service Advising: The Art of Trust-Based Selling (M11-C) *by Greg Bunch*

"Superior Service Advising: The Art of Trust-Based Selling" is a critical workshop for auto shop owners, managers, and service advisors who aim to significantly boost their sales and establish a robust and loyal customer base. Led by industry expert Greg Bunch, this course is a treasure trove of strategies and insights employed by the top 1% of the industry, which you can apply to your shop immediately.

Key Takeaways:

• Building Trust: Learn how to cultivate a relationship of trust with your customers. Discover how trust-based selling can increase customer loyalty and generate positive referrals.

• Effective Service Advising: Master the art of service advising. Understand how to accurately assess customer needs and effectively communicate the value of your services and repairs.

• Competitive Edge: Gain strategies that will provide your shop with a competitive edge. Explore how superior service and trust-based selling can distinguish your auto shop in a crowded market.

• Sales Growth: Develop techniques to sustainably increase your sales year over year. Discover how to convert customer trust into repeated business and referrals.

Who Should Attend:

This workshop is perfect for auto shop owners, managers, and service advisors who want to achieve outstanding sales results while fostering a loyal and satisfied customer base. It's for those who understand that trust-based selling is the key to a prosperous and sustainable business.

Here's what previous participants have to say about this course:

• "So much informative information to be used in business and everyday life. Great reminders."

• "I love how realistic Greg is! I have 6 pages of notes!"

• "So much great information. I enjoyed the viewpoint and keeping things personal. I like the idea of gaining trust in sales."

Elevate your sales and secure a loyal customer base with Superior Service Advising. This isn't just a course - it's your roadmap to sales success!
Sponsored by WTI / CTI

### Transitioning Your Business: Buying, Selling, and Everything in Between (M8-B) *by Hunt Demarest*

This course will go over the basics of a business valuation, non-financial aspects that affect value, and structuring a sale for tax purposes - whether you are selling to retire, or looking to expand and open another location. Hunt will also go over creating a long-term succession plan, as well as selling to a key employee versus family/friend, etc and the implications of each.
Sponsored by Paar Melis

### Unleashing the Power of Technician Mentoring: Elevating Your Back-of-House Superstars (M26-G) *by Jim Bennett*

Discover the transformative impact of Technician Mentoring with Jim Bennett, as he dives into the essential role of a Technician Mentor in every automotive shop. Join this enlightening session to understand the profound benefits of a mentorship program for new technicians, apprentice techs, the entire technical team, and even the shop owner. Gain insights into the importance of nurturing soft skills and explore the growth opportunities that being a mentor brings to your shop. Jim will unveil the qualities of an exceptional mentor and provide invaluable knowledge to ensure a successful mentorship journey. Don't miss out on this opportunity to cultivate a team of back-of-house superstars through the power of mentoring.
Sponsored by Automotive Training Institute

### What If: Preparing Your Shop for Your Unexpected Absence (Panel) (M12-C) *by Hunt Demarest*

Ever wondered 'What if?' We often dismiss these thoughts, believing such scenarios won't affect us. However, within our industry, many shop owners have faced realities like accidents, illness, or even death. Are you and your business ready to handle such unexpected events? What about your key staff or your spouse – do they know the necessary steps to keep your business operational? This course, led by Hunt Demarest and featuring insights from shop owners who have either faced crises or proactively prepared for them, aims to equip you with strategies for success. Learn how to prepare your family and employees for potential emergencies. Join us for an informative session filled with practical action steps, essential forms, and comprehensive plans to ensure your business's resilience.
Sponsored by Paar Melis

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## TECHNICAL CLASS DESCRIPTIONS

### A Streamlined Approach to Diagnostic Dilemmas (T9-A) *by Brandon Steckler*

As technicians, we've all been there before. Faced with a vehicle suffering from a fault. Eager to solve the problem but seemingly running around, like a chicken without a head. Taking the time to analyze the situation we'd most definitely find ourselves lacking one (or more) of three major pieces to the diagnostic puzzle. We either lack proper training, lack the proper tools to analyze the fault, or don't have adequate information about the system (or the components that comprise it). Having a thorough understanding of the vehicle we are faced with is the start. But to do that requires proper service information. The system description and operation as well as the wiring diagrams are crucial to proper understanding. I frequently find myself visiting trouble tree/flowcharts, but not following blindly like a sheep. But, to gain an understanding of what the ECU is anticipating to decipher if a failure is truly present. We essentially become the ECU and make accurate diagnostic decisions as a result.
Finally, having the proper tools to analyze the components of the system is what it takes to capture data for analysis. This could be an adequate scan tool, a simple DVOM, a gas analyzer, or even a multi-trace lab scope / current probe (for example). But, regardless of your tooling, without fundamental knowledge of how these individual components function (at the most basic level) we will find ourselves fumbling like fish out of water. Understanding the physics involved means applying what we know to every vehicle with any type of system that enters our work bays. If we focus on mastery of the physics of each common component, we will only have to research how one system differs from the rest. Making our jobs as diagnosticians drastically easier and making us far more accurate and efficient.

### A/C Operation, Performance & Diagnostics (T2-AB) *by Rick Kelley*

A/C Operation, Performance & Diagnostics seminar provides a complete look at automotive air conditioning and is full of real world examples and case studies to help each attendee apply the information back in the shop. Technical Information Challenges. Laying out facts in sequence is easier, but it isn't better. Technical facts simply don't directly translate into real world skills. No single air conditioning component exists for its own sake, which is why it is so hard to apply traditional component-based training back in the shop. Revolutionary 'Loop' Approach. The traditional training strategy of laying out facts in sequence is just as frustrating to training providers as it is to technicians, so we changed it! The result is a completely unique '3-Loop' strategy covering the roles of the:

- Refrigerant Loop: The compressor, lines, pressure drop devices, and heat exchangers
- Air Loop: Dash air source, speed, temperature, and destination controls
- The Coolant Loop: Radiator, fans, thermostat, heater valve, and heater core

These loops help you see the interactions in your head, leading to a much better possible cause list when things go wrong. Like all of our training seminars, the strategies we offer involve using 'High Level Indicators' to create a possible cause list that includes possibilities from each loop. The first tests then involve ruling out the two loops that are not the problem so that the more time-consuming tests are much more focused and that much more likely to get you to an efficient (and profitable) solution.

Specific Topics

- Systemic pressure & temperature analysis
- Pressure & temperature feedback loops
- Compressors, including variable displacement and controls
- Evaporators & condensers
- Pressure drop devices, including fixed orifice and thermal expansion
- Airflow controls (e.g. source, blend and mode doors and controls)
- Blower motors and detailed current and controls testing
- Cooling fan current testing and alternative diagnostic methods
- Recovery, pressure testing & leak detection equipment
- Refrigerant & lubrication types, identification & warnings
- Service & repair best practices

Sponsored by DENSO

### ADAS Cameras, Radar and Ultrasonic Sensors (T50-F) *by Rick Cannistra*

This 3-hour seminar will increase awareness and understanding of component operation and system calibration procedures essential in developing diagnostic strategies for the effective service and repair of ADAS system components.

Sponsored by Vertex Professional Services

### ADAS Diagnostics and Calibration for the Repair Technician (T3-AB) *by Mike Reynolds*

The first half of the ADAS course introduces technicians to components on the latest generation of ADAS equipped vehicles. We focus on component operation and cover how these components integrate into systems most technicians are already familiar with like ABS, traction control, power steering and cruise control. We cover the basic operation and function of these systems across all makes and models. The second half of the ADAS course covers the different types of ADAS calibrations and the available tooling needed to perform them. We will also discuss the benefits and pitfalls of both OEM and aftermarket tooling options. Applying the principles of operation covered in the first half of the course, we dive into manufacturer specific systems and calibrations. We discuss calibration failures and how to address them using actual case studies from vehicles in the field.

The technician will leave this course with:

The ability to identify ADAS systems, components and their functions.

An understanding that calibration is critical after many common repairs and why.

The fundamentals of troubleshooting ADAS systems.

A strategic approach to troubleshooting common, and collision related calibration failures.

An understanding of the tools needed to perform calibrations for all American, Asian, and European vehicles.

### ADAS: Successful Calibrations and Troubleshooting (T34-E) *by Keith Perkins*

This class is designed to assist technicians that are new to ADAS in creating successful processes and procedures to properly calibrate the most popular static and dynamic ADAS systems. We will briefly cover ADAS sensors and their operation to build a

fundamental knowledge of ADAS systems. We will cover troubleshooting and common pitfalls for the advanced ADAS technician and newcomers alike.
Sponsored by WTI / CTI

### Advanced Oscilloscope Engine Testing (T51-F) *by Mark Kenyon*

This workshop 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. Air leaks in the induction system cause Check Engine lights and can be difficult to validate and pinpoint. 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 class you learn the benefits of modern diagnostic equipment and learn when and how to use these testing techniques on the vehicle.
After completing this workshop, 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, vacuum 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
- Perform cranking vacuum tests on the engine using both the scan tool and a lab scope with vacuum transducer to validate air leaks
- 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

Sponsored by Garage Gurus / Driv

### Air Conditioning Tip & Techniques (T52-F) *by Marc Dufort*

This course, we will look at new developments in systems designs, controls, service techniques and tools. Each year, the manufacturers face stricter regulations regarding emissions and fuel economy and improving the efficiency of HVAC systems is a big part of their response. The next refrigerant, r1234yf is being used in more vehicles and you will need to be prepared for diagnosis and service of these systems. The electronic controls for HVAC have become more complex and need to be part of your diagnostic process. We will show you how these systems work, what goes wrong, and how to complete a successful repair. Be ready to help your customer stay comfortable in their vehicle. During the course, participants will:
Identify new technologies and their impact on HVAC
Properly replace HVAC components
Perform correct HVAC service
Diagnose cooling fan and airflow issues
Diagnose in-car HVAC controls
Sponsored by Standard Motor Products

### Assembling the Diagnostic Driveability and Electrical Puzzle Pieces (T35-E) *by Jim Morton*

In many of the Diagnostic presentation that I have seen over the years (including some of my own) there is a part of the diagnostic process taught. In this presentation, I would like to start with the initial consumer concern and go through the entire procedure ending with the “ROOT CAUSE” of the issue, Not the results. By developing a consistent, repeatable procedure it will keep the shop and the technician profitable. I was taught years ago by my mentor that the difference between a Business and a Hobby is that one of them makes a Profit, so let’s spend some time analyzing how to get into the correct area of the concern with General Test procedures then drive down the funnel to arrive at the actual concern using detailed Pinpoint test procedures.

### Automotive Electrical and Drivability Diagnostics (T66-G) *by Oscar Gomez*

This course is designed for automotive technicians who want to improve their diagnostics abilities, including electrical and drivability, as well as scan tool usage and oscilloscope. The course will cover the fundamentals of electrical systems, drivability diagnostics, scan tool usage, oscilloscope usage, advanced diagnostics, and safety measures when working with electrical and

drivability systems in vehicles.

### Automotive Electronics for Today's Vehicles (T31-D) *by Jerry "G" Truglia*

Topics covered include circuits and circuit testing, opens, shorts, voltage drops, relay testing, meter usage (DMM), labscope / graphing meter usage, sensor, actuators. Also covered are the starting, battery, alternator, sensors, computers, and more. This training will provide information on how to get the most out of your tools and equipment, so you can find and repair electrical problems on today's vehicles.
Sponsored by Dorman

### Automotive Module Programming - Exploring all the levels of programming today (T36-E) *by Haakan Light*

In this class, the trainer will cover what automotive module programming is. We will dispel many misconceptions and myths about programming. The trainer will take the students through the common avenues of module programming while clarifying the differences between: J2534, OEM programming, cloning, and cloud based programming. We will review the role of having a solid process when performing any programming. The class will focus on adaptable skills that can be applied across all makes and models to achieve more successful outcomes. There will be a discussion of some of the common pitfalls that are often overlooked or unknown. There will also be a discussion of appropriate tooling to approach each form of programming combined with a pragmatic discussion of return on investment for said tooling. The trainer will also provide some basic resources that are readily available on each of the programming topics. This class is designed to improve the competency of technicians and shops who rarely do programming currently, but would like to hit the ground running and add a new revenue stream and/or skill set to their portfolio.
Sponsored by TopDon

### Basic Alignment (T67-G) *by Chris Ellington*

This course is designed to cover topics of alignment theory for those unfamiliar with vehicle alignments. Topics covered include:
Camber Caster Toe
Cruise control ADR
ADAS as it comes in to alignment
Sponsored by BOSCH

### BMW Information Systems – TIS, ISTA & AIR (T79-CD) *by Justin Morgan*

Step into the world of BMW diagnostics with factory repair information, scan tool, and programming platform. This course will cover the ns and outs to finding service information thru BMW's technical information website (TIS). Once students have learned to navigate TIS they will dive deep into the factory scan tool, (ISTA D) and the stand alone information system (AIR). Finding wiring diagrams, running test plans, acquiring live data and much more. Ending out with discussing programming of cars with factory interface and ISTA D / ISTA P.

### Brake Technology (T37-E) *by Chris Ellington*

This course improves the participant’s knowledge of the complete braking system and provides tips to properly diagnosis and service braking components to reduce comebacks. During the course, participants will:
Learn recommended practices and tips for a successful brake service
Understand how hydraulic brake systems function and how to properly diagnoses brake related issues
Learn how to diagnosis and service Anti – Lock Brake Systems (ABS)
Understand how wheel and braking forces affect traction control systems
Learn how wheel speed, lateral acceleration, yaw rate and steering angle sensors affect a vehicle’s performance and Electronic Stability Control (ESP)
Sponsored by BOSCH

### CAN BUS Communication (T38-E) *by Ken Zanders*

This class/seminar explains the working of the control area network and what is needed to know and test. Provided is CAN BUS communication diagnosing and testing using scan tools, meters, BOB (break out box) and Labscopes. Also covered are the fundamentals of the CAN Protocol, pins 6 and 14, why CAN is used, twisted pairs, system topology, protocol speeds, diagnosis and more.
Sponsored by Dorman

### Communication Issues U Codes and Network Diagnostics (T27-C) *by Eric Ziegler*

This class will introduce technicians to a simplified, straightforward and logical step by step process to understanding and diagnosing network issues in the modern vehicle. Tooling options and techniques will be discussed. Real world case studies will be used to illustrate these techniques.

Sponsored by WTI / CTI

### Conquering Network Diagnostics (T28-C) *by Rich Falco*

This class covers modern vehicle network operation and how to efficiently diagnose them using common tooling. The overwhelming majority of network related issues do not require decoding of individual packets of data. It is important to understand how a network exchanges information, but a deep dive into the bits. bytes, nibbles and ticks of each network is not needed to repair the vehicle. Knowledge of the network type, the expected voltage levels, and the layout of the network wiring to the modules can provide us with enough information to gain diagnostic direction. At that point, we can use our available tooling to determine the root cause of the problem. Topics Include:

- Understanding common automotive networks and where to get help if we don't understand them
- Discuss OE and aftermarket scan tool communication benefits and challenges
- Learn how to develop a logical diagnostic approach using service information and our own tooling
- Understand diagnosis through communication related case studies

Sponsored by WTI / CTI

### Critical Thinking-Diagnostic Strategies "2024" (T68-G) *by Jerry "G" Truglia*

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 transduces, 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

Sponsored by O'Reilly Auto Parts

### Data, Data Everywhere (T53-F) *by Jason Gabrenas*

Technicians have to deal with mountains of data when performing a diagnosis & both scanner data as well as issues with data networks. In this two-part class, we'll cover best practices for scanner data capture and management, which data to collect for different situations, and how to build a library of known-good data to compare. In the second half, we'll cover vehicle network diagnosis with a focus on CAN network. Network structures, how to test, and common failures.

Sponsored by Snap On

### Diagnosing and Repairing Diesel Aftertreatment (T39-E) *by Wayne Bishop*

Aftertreatment systems on late model diesel trucks are complex with multiple faults that can strand a customer. Learning how these systems operate and how to service them is crucial to not only keeping the vehicle running, but also to keep the air clean. The goal of this class is to recognize the various systems and how the operate to best prepare the aftermarket technician to service diesel aftertreatment systems. This class will demonstrate accurate diagnosis, procedures, and tips to ensure proper completion of repair on actual vehicles.

After completing this class, a technician will be able to:

- Understand operation of aftertreatment for diesel emissions
- Reference and complete the monitoring requirements of the system
- Diagnose failures of the aftertreatment system and failure of common components
- Understand and diagnose the operation of the particulate filter
- Understand and diagnose the operation of exhaust gas temp and pressure sensors
- Understand and diagnose the operation of a NOx absorbing catalyst

Sponsored by O'Reilly Auto Parts

### Diagnosing Fords using IDS and RDRS Laptop Based Scan Tools (T40-E) *by Eric Ziegler*

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.

Sponsored by WTI / CTI

### Diagnosing Gnarly Intermittent Faults: A Class on Diagnostic Strategy (T10-A) *by Gary Smith*

This class will fill the attendee with several out-of-the-box diagnostic thoughts, approaches and strategies for tracking down and successfully diagnosing those gnarly "ghost" faults that can be so difficult to solve. They will look at several methods used every day on the DiagNation Support Hotline to help technicians with a "Guided Fault Finding" pathway to solve these vexing issues, regardless of the system you are working with.

Sponsored by WTI / CTI

### Diagnosing Mercedes-Benz Vehicles: Mercedes Diagnostic Tips and Tricks (T78-G) *by Gary Smith*

In this training, we will use a combination of scan data and lab scope analysis to solve several Mercedes-Benz specific faults based on real-life recent diagnostic support cases, where we had to dig deep for the answer. In this class we will cover:

·Isolating Network faults on MB platforms, finding termination issues quickly
·Overview and Testing of the new Mercedes-Benz 2020+ Ethernet Backbone
·Overview and Testing of the Mercedes-Benz 48 Volt Mild Hybrid System
·Diagnostic case studies involving driveability and approach strategy are covered

Sponsored by WTI / CTI

### Diagnostic 101 (T20-CD) *by Jim Wilson*

This class is for the entry to mid-level tech or tech needing a review. How to baseline the vehicle for Diagnostics. Checking the mechanical condition and computer functions with the tools that are normally available in the shop. Building the essential skills needed for the tech today.

### Diesel Emissions Operation, Diagnosis, and Repair (T54-F) *by Rusty Sampsel*

Modern diesel engines are subject to increasingly stringent emission regulations and monitoring requirements. This training event will prepare technicians to effectively diagnose and repair diesel exhaust emission reduction failures by developing an understanding of the emissions created by diesel engines and the systems designed to reduce those emissions. Both pre- and after-treatment systems will be covered. Specific systems and components will include intake air swirl and heating, glow plugs, exhaust gas recirculation, oxidation catalysts, diesel particulate filtration, NOx reduction technologies, selective catalyst reduction, and diesel exhaust fluid. Technicians will strengthen their diagnostic techniques by focusing on the conditions used by the Engine Control Module (ECM) to set codes related to these systems, developing an understanding of how false codes could be set, and determining the root cause of any code or failure. Common failures will be covered.

Sponsored by ACDelco

### Domestic Driveability Diagnostics (T55-F) *by John Thornton*

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.
Sponsored by WTI / CTI

### Driveability from the Drivers Seat - Mastering Scan Tool Data Interpretation (T15-B) *by Brandon Steckler*

"Drivability From the Driver's Seat-Mastering Scan Tool Data Interpretation" is a class I chose to put together with good reason. It's a common misconception that the "Good-Techs" are the men and women that have mastered the automobile and the systems that make them up. In actuality, it's the mastery of the basics that propel these men and women to the front of the pack.
Like anything else we are challenged with in life, if we have a thorough understanding of how things work, there is a pretty good chance we will being successful in overcoming the challenge and solving the problem. The same holds true, especially for the automobile. It's the understanding of how these systems work, the goal of the system, the functionality of the components that make them up, and how to interpret the data that indicates if they are functioning properly or not. It's these basic concepts that were the motivation in my creating this class. The class is assembled to be fun and interactive. The course objective is to first, take the novice drivability-tech and offer insight as to how fuel injection strategy functions (at the most basic level). After a thorough discussion of what critical inputs are necessary and how they contribute to the decision of the proper fuel injector pulse-width, interactive class exercises will begin. Using my personal vehicle with a MAF fueling strategy, a series of experiments were conducted to create a low-power drivability fault. The faults include:
-exhaust restriction
-Air Filter restriction
-Fuel restriction
-un-metered air before the throttle plate
-un-metered air after throttle (vacuum)
The scan data will be presented in a graphed format, for "action/reaction" comparison, as well as in a format featured only by ATS eScanELITE. The goal of the class is to have the attendees analyze the data and decipher which fault is responsible for the data being viewed at that time. Attendees will leave with an understanding of fuel injection strategy, fuel feedback control, and the ability to use generic scan tool data to make preliminary decisions about diagnostic direction, right from the driver's seat." Giving them confidence in moving forward with drivability analysis and diagnosis. It's should be a ton of fun!

### Electricity for the Automotive Professional (T11-A) (T11-B) *by Robert Kenney*

Electricity for the Automotive Professional: this is an intermediate level class that will build students electrical skills. Ohms law, electrical calculations, theory of electricity will be taught. Voltage drop testing, its importance and how to properly test. Testing techniques to locate concerns quickly. I will provide some hands on activities for circuit building and testing.

### Engine Management 101 (T56-F) *by Jim Wilson*

- Input Sensors and Outputs Review
- Using the IPO
- How the PCM makes its decisions and how it sets codes for problems
- Using Mode $01 DataStream in OBDII for efficient use of diagnostic time
- Review the 10 Modes of OBDII
- Use the Freeze Frame DTC stored conditions and how to use it to prevent comebacks
- Use the power of Mode $06 to analyze test parameters
- How to use Short-Term and Long-Term Fuel Trim
- Using OBDII Data levels the playing field for techs

### Engine Mechanical Diagnosis with Electronic Equipment (T16-B) *by Eric Ziegler*

This class covers the use of current probes, vacuum transducers and pressure transducers to quickly diagnose engine mechanical issues quickly. Often, using the techniques discussed in this class, the amount of physical teardown to confirm the diagnosis will not be required. This class will focus on misfire problems, but will also address ignition and camshaft timing issues
Sponsored by WTI / CTI

### Enhanced Air/Fuel Diagnostics (T57-F) *by Curt Eigenberger*

This course is designed to eliminate confusion regarding Oxygen and Air/Fuel Ratio Sensors and lead the technician to more

efficient diagnostics. They will learn the role these sensors have in fuel control strategies. Learn to utilize fuel system monitor operation to help identify the root cause of the failure.
Recommended for A and B level Technicians
• Detailed coverage of O2 Sensors vs Air/Fuel sensors
• Proper utilization of 5-gas diagnostics
• Interpretation of scan data to develop a test plan
• Micro probe testing of AFR Sensors
Sponsored by NAPA

### Essentials to Key Cutting and Programming (T12-A) *by Matt Fanslow, Andrew Sexton*

This hands-on course will walk you through acquiring the key code. Setting up your machine and cutting the key. Then finish with successfully programming the key to the vehicle. Everything you need to know to get started adding keys as a service for your customers.

### European Smart Charging Systems (T42-E) *by Scott Townsend*

It is no secret that in their quest to be at the forefront, European vehicles
typically have numerous electrical loads. In order to better handle these greater demands, charging systems have been designed with some unique features and strategies. In a continuation of our Smart Charging System series, European technologies will be featured in this class.
• Review the European charging system's communications structure
• Key sensors
• Discuss pertinent scan data acquisition
• Cover voltage and signal testing
• Demystify replacement battery registration
• Detail resets and system calibration
Sponsored by NAPA

### EV Batteries and Charging Solutons (T32-D) *by John Forro*

It is no secret that the most expensive part of an EV is the main drive battery. This course dives deep into why EV batteries fail, and what we can do to prolong the life of the battery. A detailed explanation of battery testing, evolution, balancing, diagnosing and components will be covered. We also will cover EV charging in great detail during the course.
Sponsored by Autel

### EV Bumper to Bumper (Hands-On) (T21-CD) *by Robert Kenney*

Bumper to Bumper EV: a broad look at electric vehicles. Topics include high voltage safety and testing, batteries, motors, charging, motor controls, diagnosis and operation of the most common electric vehicles. This class is intended to be an introductory to intermediate class for those who have little to no experience with electric vehicles. Itâ€™s designed to remove the anxiety experienced by shop owners and technicians related to servicing electric powered vehicles.

### EV Drivetrain Operation & Diagnosis (T58-F) *by Michael Heyman*

This 3-hour Instructor-led training Seminar will increase your awareness and understanding of Electric Vehicle (EV) drivetrain components and operation, types of electric drivetrain motors used in EVs, and EV-specific drivetrain diagnosis and service guidelines and procedures.
Sponsored by Vertex Professional Services

### Evap Diagnostics (T43-E) *by Standard Motor Products*

While it has been over 25 years since onboard EVAP monitoring has been required, many technicians still struggle with evaporative system faults. Regulations essentially require just two things, storing and consuming hydrocarbons that would otherwise leak into the atmosphere. To this end, manufacturers have used a number of different system types. Each type requires a different diagnostic approach. In this class we will explore what a vehicles evaporative system must do as well as the various methods used to accomplish the goal. The various system types will be explained and diagnostic procedures will be presented using many case studies. After completing this class, a technician will be able to:

·Explain what evaporative systems much accomplish and why it is important to know
·Understand evaporative system pressure changes during flow events
·Use evaporative system PIDs effectively in a diagnostic
·Perform an accurate leak diagnostic using multiple methods
·Diagnose purge flow errors
·Fix EVAP problems!
Sponsored by Standard Motor Products

### EVAP System Operation & Diagnosis (T69-G) *by Rick Cannistra*

This 3-hour seminar explores Engine Off Natural Vacuum (EONV), Evaporative System Integrity Monitor (ESIM), and Toyota EVAP systems. The course examines conditions for setting Diagnostic Trouble Codes (DTCs) and causes of the component failure, with a focus on developing effective diagnostic strategies to address EVAP system concerns.
Sponsored by Vertex Professional Services

### Ford 6.7L Powerstroke Engine Performance & Emissions (T22-CD) *by Eric Walker*

The basic idea of the diesel engine hasn't changed in over 100 years, but like gasoline engines, advanced engine management and emissions systems have been added. Diesel systems are more integrated and depend on each other more than gasoline systems, and the 6.7L Powerstroke is no exception. However, available diagnostic information hasn't kept up, and focuses on long test sequences that often ignore possible causes in related systems. ATG seminars are built from the 'shop up' instead of simply trimming down OEM information, so all of the information is developed and tested during real-world diagnostics. System, code, and symptom coverage includes:
• DPF regeneration tips
• SCR and related component diagnostics
• Production changes & backwards compatibility
• Strategies for low boost & breathing MAF, MAP & TP correlation codes
• False HP fuel system codes
• Best locations to find a failed fuel system
• DualBoost single turbocharger
• EGR, VGT Turbo & Throttle Plate relationships
• Simplified no-start & hard-start diagnostics
• Homemade tools for a variety of procedures
• Tips for avoiding EGR bolt breakage
• Common mistakes to avoid during repairs
This manual and seminar cover the 'inside information' you need to avoid testing the long way when flow charts are available, and completely guessing when they aren't. Our approach looks for high-level indicators to make a better possible-cause list, and then offers multiple simple tests to trim that list as fast as possible without taking too much apart.
Sponsored by ATG, Driven by Repairify

### Ford Drivability & Code Diagnostics (T4-AB) *by Wally Mouradian*

The real path to diagnostic success involves starting with what each system is actually trying to accomplish, how each monitor verifies operation, and how you can duplicate and measure it in the shop. On Ford vehicles, this is more challenging because flow charts cover groups of vehicles, not specific systems. The variety and complexity of Ford's induction, fueling, ignition, mechanical, and emissions systems dictates the need for a more of a "why" approach to system types, defaults and interactions. This new Ford seminar sorts through the hundreds of PIDs, controls, waveforms and strategies available on modern Fords to find the best combination of Scan Tool, Lab Scope, and other tests for the most common diagnostics. More than that, it offers a high level thought process to determine which tests to perform, and just as importantly, which test to avoid.
Specific topics include:
- Breathing & fueling decision making tables
- New combination Port/Direct injection systems
- Rear Fuel Trim & Port vs. Direct Fuel Trim
- Extensive help with Misfire & Fuel Trim codes
- O2 noise vs. torque-based imbalance codes

- New EVAP blocking solenoid
- Actuator voltage drop testing
- Mechanical vs. Variable Engine Timing Testing
- Three GDI fuel volume solenoid control variations
- Turbo wastegate & bypass control variations

Come to this seminar and get the information you need to beat the flow chart every time. Misleading codes, codes that are really symptoms other faults, unexplained PID units, and inverted PID values are all very common on Fords. But between our high-level approach, specific examples and case studies, you'll be armed and ready for your next diagnostic challenge.
Sponsored by ATG, Driven by Repairify

### Ford Gas Vehicles (T59-F) *by Standard Motor Products*

From EcoBoost to large truck engines, Ford gasoline engines have evolved considerably over
the last decade. In order to continue to profitably repair and service these engines, technicians will need to stay current with the changes. In this class we will examine Ford variable valve timing, direct injection, dual fuel systems, fuel delivery systems, fuel control, ignition systems, and boost control. After completing this class, a technician will be able to:
·Diagnose variable valve timing codes and problems
·Diagnose port, direct, and dual injection systems
·Understand the difference between 2-wire and 3-wire ignition systems
·Evaluate fuel control issues
·Diagnose boost system failures
Sponsored by Standard Motor Products

### Ghost Buster Electrical Tips for High & Low Voltage Circuit (T70-G) *by Dave Hobbs*

Some electrical problems can confuse even the best technicians. In this new 2024 tech course, we will explain common and not-so-common electrical/electronic problems and the practical methods to diagnose them using every day (non-nerd) auto tech terms and live classroom demonstrations.
Sponsored by Delphi

### GM Engine Controls - New Technologies (T44-E) *by Standard Motor Products*

The General Motors fleet of vehicles has been changing rapidly in recent years. Smaller and more efficient engines now dominate a fleet of downsized vehicles. At the same time, full-size gasoline pickup trucks are still very popular. Producing vehicles with high fuel efficiency and customer demands for performance has brought interesting changes. Computer networks and safety system complexity has grown as well. The goal of this class is to prepare aftermarket technicians for the diagnosis and repair of the new engine control systems found on GM vehicles. During the class, we will present tips and procedures that will enable the technician to diagnose these faults quickly and accurately. After completing this class, a technician will be able to:
·Explain turbocharged engine fueling and evaporative control
·Evaluate variable valve lift and timing faults
·Analyze fuel trim data
·Evaluate GDI faults
·Diagnose high and low-speed communication faults
Sponsored by Standard Motor Products

### GSTA - General Service Technician Academy (T1-ABCD) *by*

This comprehensive 2-day program (Thursday/Friday) designed for entry-level and apprentice technicians. This program benefits the technician and the shop with increased efficiency, knowledge, and safety, as well as a cost-savings by helping prevent beginning mistakes. Certifications will come from Tire Industry Association (TIA), Automotive Lift Institute (ALI), and Mobile Air Conditioning Society (MACS). This course does require approximately 3 hours of prework prior to coming to VISION. Class size is limited so register early.

### Hands-on PicoScope (T23-CD) *by Scott Shotton, Matt Fanslow*

This hands-on class will cover the basics of PicoScope set-up, connection using wiring diagrams, valuable tests that can be added to

a technician's diagnostic arsenal and, as an end result, improve technician efficiency
Sponsored by WTI / CTI

### HEV/BEV Motor Operation & Testing (T17-B) *by Lonnie Horn*

Three-phase motors are widely used in industry and have become the workhorse of many mechanical and electromechanical systems because of their relative simplicity, proven reliability, and long service life. This course covers the operation of hybrid electric vehicles (HEV) and electric vehicles (EV) traction motors and generators. Technicians will learn principles of operation that can be applied to many OE design applications including permanent magnet and induction motors. Objectives of the class are:

- Understand construction and operation of 3-phase motors
- Identify differences between permanent magnet and induction motors
- Describe the operation of motor position sensors
- Explain inverter operation during generation and motor modes
- Identify several common failures
- Perform motor testing using specialized tools
- Analyze common motor failures

Sponsored by WTI / CTI

### Hybrid & Electric Vehicle Service: An Introduction (T29-C) *by Lonnie Horn*

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

Sponsored by WTI / CTI

### Hybrid and EV - AC Diagnostics (T71-G) *by Bill Weaver*

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.
Sponsored by NAPA

### Hybrid Systems Diagnostics (T5-AB) *by Chris Nosalek*

Vehicle coverage includes examples from Honda, Toyota, Ford, BMW, Hyundai/KIA, General Motors, and more. There are now over 100 hybrid models on our roads, but our captures and case studies cover the limited number of configurations used. After this seminar, you'll be able to recognize the systems and components even when working on one of the dozens of low-production hybrids. Using these skills, you can approach a common hybrid or a model you've never seen and easily identify components, functions, and interactions. Better still, you'll be able to select the appropriate test from our manual to avoid guessing when available repair information is confusing (or nonexistent). Specific topics include:

- An Intuitive understanding of power sharing
- Drive motor types & feedback, including BAS, planetary, 2-mode, flywheel, clutched EV, etc.
- Battery stress-testing w/ failure examples
- High voltage battery faults vs. voltage drop
- ICE faults and test variations vs. non-hybrid
- Understanding the braking/regeneration mix

- Testing air, coolant and refrigerant cooling for batteries, motors, engines & electronics
- Lots of auxiliary tests for fans, pumps, HVAC, plug-plugin-charging, brakes, instrumentation, etc.
- Cool circuit tests not listed in OEM information

For each discussion, we focus on the high-level thought process to help you rule out entire categories of faults. Finding out what's not wrong prevents wasted tests and the distractions that lead to misdiagnosis. Bringing this ideology to hybrid diagnostics makes sense because the complexity of the drivetrain and auxiliary systems means that mistakes cost a lot of time and money. After this seminar you'll have confidence when the next hybrid rolls in, no matter who made it!

Sponsored by ATG, Driven by Repairify

### Hybrid Vehicle Maintenance Procedures (T72-G) *by Rusty Sampsel*

This training event will focus on maintenance service procedures that aftermarket technicians can perform on hybrid electric vehicles. Participants will receive a high- level overview of the operation of hybrid components, related safety concerns, and serviceable systems. These include high voltage system operation, supporting systems such as HVAC and brake systems, and internal combustion engine.

Sponsored by ACDelco

### Introduction to Electrical Testing (Hands-On) (T6-AB) (T6-CD) *by Michael Heyman*

This course will provide the entry-level technician with an opportunity to perform basic electrical testing. It contains one 8-hour Hands-On segment that will cover Circuit Types, Ohm's Law, Digital Multimeter (DMM) Usage, Automotive Electrical Circuit Testing, and Voltage Drop Testing. The course consist of lecture, demonstration and workbench exercises.

Sponsored by Vertex Professional Services

### J-2534 Asian Programming Update (T73-G) *by Keith Perkins*

J2534 is a constantly changing arena of technology. As the need for programming in the shop bay increases, especially with mandated OE diagnostic software being provided for use with a J-device, technicians have to be more familiar with the J2534 process. This class focuses on the need for J2534 today. The current information for hardware setup, software configurations, and changing OE websites are covered in detail.

Topics include:

- Computer and operating system setup
- Java and browser security configurations
- J-device selection and management
- OE websites and APIs
- The reprogramming process
- Problems and solutions

Sponsored by WTI / CTI

### J-2534 Domestic Programming (T60-F) *by Keith Perkins*

J2534 is a constantly changing arena of technology. As the need for programming in the shop bay increases, especially with mandated OE diagnostic software being provided for use with a J-device, technicians have to be more familiar with the J2534 process. This class focuses on the need for J2534 today. The current information for hardware setup, software configurations, and changing OE websites are covered in detail. Topics include:

- Computer and operating system setup
- Java and browser security configurations
- J-device selection and management
- OE websites and APIs
- The reprogramming process
- Problems and solutions

Sponsored by WTI / CTI

### Labscope Power User (T30-C) *by Standard Motor Products*

The labscope is a powerful diagnostic tool that often is not used to its full potential. Many technicians understand the basics of labscope use, but would like to go further. This class is meant to bring both the novice and the experienced labscope user to the

next step, becoming a labscope power user. In this class we will begin by bringing the class up to speed with a quick review of the basics and then move on to illustrating, through case studies, how to use advanced labscope techniques. Many real-world case studies will be used in this class. After completing this class, a technician will be able to:
·Set up a labscope properly for the signals being investigated
·How to effectively use a trigger
·Diagnose ignition system faults
·Perform and analyze a relative compression test
·Acquire a cam-crank waveform
·Access module connectors in order to acquire signal access
·Effectively use an amp probe to diagnose faults
·Diagnose pressure faults using a pressure sensor
Sponsored by Standard Motor Products

### Light Duty Diesel Emissions (T74-G) *by Robert Kenney*

Light Duty Diesel Emission Systems: this course will discuss the emission systems used on modern light duty diesel vehicles. Material covered includes description and operation, diagnosis, repairs and the dreaded resets of these emission systems. Emphasis is placed on the correct diagnosis of failed exhaust emission system components and how to release the derate modes.

### Misfire Diagnosis (T75-G) *by Ken Zanders*

Misfires can be caused by many different components on today's high tech engines that can cause the MIL/Check Engine Light to illuminate, the engine to run rough, loss of mileage, transmission shifting problems, limp mode problems and more. This class/seminar will provide information and test techniques you need to diagnosis and repair misfire problems correctly the first time. Chasing down P0300 DTCs will be addressed resolving problems associated with this DTC. The tools that you can use in nailing down misfire problems are covered in this seminar. Use of different tools will be presented from the standard testers you already own, to OE scan tools, labscopes and on to advanced pressure transducers.
Sponsored by Dorman

### Mobile Diagnostics 101 (T13-A) *by Ziegler / Shotton*

This course will give attendees a clear, no nonsense, honest view of Mobile Diagnostics from 2 Mobile Diag industry professionals. Diagnosing network failures, running down diagnostic codes, programming modules, or performing the ADAS calibrations required post collision or repair can be all part of a modern Mobile Diag Techs jobs.
Sponsored by WTI / CTI

### Modern AC Diagnosis & Repair (T61-F) *by Wayne Bishop*

Automotive HVAC systems continue to become more efficient and complex to meet stringent CAFE standards for fuel economy. As refrigerant charges get smaller the room for error becomes near zero. Passenger comfort is paramount and a costly job if not done correctly or has to be done again. Our HVAC class will help promote accurate diagnosis the first time with best practices and common failures. This class will help the technician know how different systems operate and use refrigeration principles to diagnose systems accurately the first time. HVAC systems now rely on complex electrical systems to operate. This class will cover R134a as well as R1234yf and their related system components. After completing this class, a technician will be able to:
- Identify and diagnose electrical components and their impact on HVAC operation
- Understand safe refrigerant handling and proper procedures
- Accurately diagnose and service both R-1234yf and R134a systems
- Properly replace HVAC components and related electronics
- Perform correct HVAC service per government regulations

Sponsored by O'Reilly Auto Parts

### Modern Advanced Multispeed Automatic Transmissions (T45-E) *by Sean Boyle*

Transmissions have become quite complex with advanced electronics and operating strategies. In this session we will dive deep into the design and operation of common transmissions, such as the GM/Ford 10 speed, GM's 8L90, and the ZF 9HP. I will also share some results from using Tuning programs used to change the operating strategies along with their direct affect on

transmission pressures and timing.

### Modern Diagnostic Process for Gas and Diesel (T14-A) *by Scot Manna, David Finch*

This presentation will start with a discussion of a logical process to diagnosing electrical and drive-ability concerns. With a foundation established, the class instructors will present a number of vehicle case studies that are designed to assist the attendee in developing a reasonable diagnostic path for determining the problem on a number of challenging vehicles. Vehicles include:

·2019 Chevrolet Equinox, In-operative headlight and BCM programming failure
·2019 Ford F-250, 6.7 Diesel, Vehicle stall at idle on the first 1st start after cold soak
·2007 Honda CR-V, Code P0135 for A\F sensor heater, New sensor, PCM and Fuse Box
·2012 Ford F-250, 6.7 Diesel, Continuous misfire on cylinder #7
·2019 Cadillac Escalade AWD, Warning Lights and CAN communication codes
·2017 Ram 2500, 6.7 Diesel, Vehicle has message that exhaust filter is full, lacks power
·2016 Subaru Outback 2.5, Emission Readiness monitors will not set
·2011 Ford F-350, 6.7 Diesel, No start, No Crank, Starting system fault and engine over temp message displayed on Instrument cluster
·2017 Cadillac ATS, 2.0 Turbo, Air\Fuel Sensor Code and Airbag Light On

Sponsored by WTI / CTI

### Modern Electronic Steering and Suspension (T62-F) *by Randy Cowan*

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

Sponsored by NAPA

### Network Nightmares: Solving the Diagnostic Distress (T24-CD) *by Gary Smith, Adam Robertson*

This training will share the road maps that we have learned and developed over many years of study and application on the DiagNation support hotline. Topics will include: Construction and Theory of Operation of the Various Sections of Protocols we Analyze in the Physical Layer; Learn the Physical Rules that Makes any Network Function, Waveform Interpretation and Analysis.

Sponsored by WTI / CTI

### PicoScope 7 Techniques (T7-AB) *by Adam Robertson*

This class is designed as introduction to operating PicoScope 7 software. Beyond featuring the operation and manipulation of the software, it will also include the introduction to the many available testing probes/techniques that will significantly increase our diagnostic efficiency. We will be introducing these techniques with the application of real case studies. Even seasoned Pico 6 users will benefit from this course. Topics include:

- Differences between the most common automotive PicoScope interfaces
- Buttonology of the Pico 7 software
- Features of the PicoScope 7 software
- Case studies to show software functionality and testing techniques
- Testing probes available for PicoScope from Pico and 3rd party
- Introduction to the PicoScope Diagnostic software suite

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### Pinpointing the Reason for Incomplete Monitor Tests (T46-E) *by Rick Escalambre*

This workshop is designed for the technician working with a MIL-commanded ON. Whether or not the technician is part of an

emissions program, the commanded MIL means an emission failure has occurred. The technician is now working for the PCM. Failing to work for the PCM runs the risk of not satisfying the owner, missing monitor test blocking conditions, making unnecessary repairs, and increasing the chances of a comeback. There is valuable data to be collected from the scan tool while sitting in the driver's seat. Every DTC that turns on the MIL has a related monitor test. The MIL commanded ON means a monitor test ran and failed. Learn to use MODE $09 (In-Use Performance Monitor Tracking) and MODE $06 (Test Results) to identify some difficult-to-run monitor tests. Case studies will demonstrate this systematic approach. Because it can be challenging to determine which monitor test(s) within the group prevented completion, Unified Diagnostic Services (UDS) will phase in starting in 2024. UDS will include IUPMT, detailed DTC failure bits, and expanded DTC status bits for every monitor test capable of setting a DTC. It is designed to decrease diagnostic time and improve the diagnosis's accuracy.

### Powertrain Electronics (T63-F) *by Standard Motor Products*

Powertrain systems on modern vehicles have evolved into complex systems relying on a variety of electrical components controlled by modules communicating on various networks. While these are complex systems, the diagnostics does not have be complicated if fundamental electrical principles are understood. This course will first focus on understanding electrical theory as it applies to powertrain systems including components such as sensors, actuators, and their control circuits. We will then use that theory to diagnose complex systems through real-world case studies. After completing this class, a technician will be able to diagnose powertrain electrical systems and components by demonstrating how to:
·Interpret wiring schematics for accurate testing
·Interpret DVOM measurements
·Analyze oscilloscope waveforms
·Confirm inputs and outputs with scan tool data
Sponsored by Standard Motor Products

### Pressure Waveform Acquisition and Analysis - From the Inside Out (T25-CD) *by Brandon Steckler*

Course objective is to take the pressure-transducer novice to a whole new level. The goal is for someone with lab scope/engine mechanical-operation knowledge, to gain the ability to capture pressure waveforms (from the intake manifold/tailpipe and in-cylinder) and be able to use the information to make diagnostic-decisions. The course will cover transducer functionality with both absolute transducers as well as delta transducers. It will touch on the benefits and characteristics of both types of transducers and how they can be used to gain an edge. Diagnostic-approach will be carried out using real world examples and actual case studies from my own library. Attendees leave with confidence to invest in the tooling and to perform pressure testing and analysis to improve accuracy and efficiency.

### Scan Data Diagnostics with Fuel Trim and More (T76-G) *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
Sponsored by WTI / CTI

### TECHtalks (T47-E) *by Moderated by Matt Fanslow*

TECHtalks is a session where technicians who aren't instructors get an opportunity to present case studies, technical training tips, case studies and more. Moderated by Matt Fanslow, this unique, powerful, and informative 3-hour session during VISION is one not to miss!

### Tesla Model 3 and Y Technical Review (T64-F) *by Jack Rosebro*

Tesla's Model 3 and Model Y "entry-level" EVs are each as popular as all other EVs combined in some parts of the country, and Tesla service centers are already seeing these vehicles come in for out-of-warranty work. While Tesla vehicles have in the past been viewed as difficult for independent shops to service and repair, they have recently become more supportive to the aftermarket, particularly in terms of service information. That being said, the Model 3 and Model Y powertrains are in many ways very different from the EV (and hybrid) powertrains that we have become accustomed to. While some aspects of the Models 3 and Y will be familiar, expect a learning curve even if you have significant experience with non-Tesla electric vehicles. We'll cover all major aspects of these advanced vehicles and share examples of diagnosis and repairs that we've seen at our own dedicated EV shop.

### Tesla Service Essentials (T48-E) *by John Barclay*

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.

Recommended for all levels of technicians

- 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
  - Can your shop service Teslas?
  - What services can your shop perform?
  - What specialty tools will you need?
  - How can you stay safe working on these cars?

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### Timing Chain Advanced Diagnostics Using Scopes, Transducers and Scan Tools (T77-G) *by Robert Descalzo*

An engine needs three things to run: air, fuel, and ignition. This class will focus on "air" – getting it in, compressing it, and getting it out again. A variety of testing techniques will be taught, using the scan tool and DSO (Digital Storage Oscilloscope) to inspect and identify engine mechanical problems that impact the engine's volumetric efficiency and its mechanical ability to compress the air/fuel mixture. Examples of "known good" and "known bad" will be included to help the student understand the concepts presented.

- Digital Storage Oscilloscopes (DSO)
- Scope setup to read pressure
- Relative compression
- Cranking compression
- Scan tool resources
- Volumetric Efficiency (VE)
- Crank and cam sensors
- CKP and CMP patterns
- In-cylinder running pressure test

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### Toyota/Lexus Diagnostics (T41-E) *by Luis Ruiz*

In 2020, the market share for Toyota/Lexus vehicles was second only to GM. In order to meet the ever-rising government regulations, these vehicles are growing in complexity. Technicians not keeping up with the technology will may find themselves not being able to compete in the marketplace. This course will examine specific Toyota/Lexus systems such as fuel control, variable cam timing and lift, direct injection, and vehicle security. With this focused, in-depth approach, we will show how to quickly diagnose

these complex systems with simple techniques. Case studies showing real-world failures will be used to demonstrate these techniques.
After completing this class, a technician will be able to do the following on Toyota/Lexus vehicles:
- Explain Air-Fuel Ratio sensor operation
- Understand post catalyst trim
- Diagnose fuel control faults
- Diagnose cam phasing and lift fault
- Analyze scan tool data during diagnostics
- Understand the security system

Sponsored by O'Reilly Auto Parts

### Transmission In-Car Diagnostics (T26-CD) *by Bryan Perrin*

Whether you're a transmission specialist or not, you share a common problem & how to efficiently diagnose the root cause of a transmission code or complaint in a reasonable time. This is even more important for modern, integrated drivetrains where drivability problems are often transmission-related, and transmission complaints often end up being engine-related. That's why we're bringing the strategies we've learned from emissions and drivability diagnostics into the world of automatic transmissions. Our focused, repeatable strategy allows you to more quickly find the fault while taking apart the fewest components.
- Quickly differentiate between transmission, engine mechanical, engine management, suspension & other possible causes.
- Use application charts to map out power flow to determine what components are being used under fault conditions.
- More effectively test sensors, switches & solenoids under loaded conditions.
- Leverage Scan Tool PIDs & functions to eliminate the most possible causes.

We're not trying to teach anyone how to rebuild transmissions & transmission techs already know how, and know that it's a specialty you need to dedicate considerable time to learning. But all technicians will benefit from diagnosing better and faster. The specialist will use that diagnosis differently than the non-specialist, but whether you end up repairing, rebuilding, subletting, or replacing,"fast and accurate" is better than "time-consuming" and "I think it needs." We've included dozens of real-world examples to prove the point. We're confident that this seminar is exactly what is needed to make you a lot more successful at diagnosing transmissions, whether you rebuild them every day or haven't ever had one apart.

Sponsored by ATG, Driven by Repairify

### Understanding and Diagnosing Automotive Circuits (Hands-On) (T8-AB) *by Jim Wilson*

Learning the fundamentals of electricity “on the car” can be challenging. Technicians get bogged down with finding wires, connectors, and circuits. This “hands-on” class will cover electrical circuit theory and diagnostic strategies that will assist new and seasoned technicians in comprehending circuit failure. Learn digital multi-meter functions like duty cycle, diode testing, min/max, and peak min/max. Learn how faults like opens, shorts, and high resistance affect circuit operation. Complete training activities that will help enhance your diagnostic skills.

Sponsored by ATech Training

### Understanding Plug-In Charging Systems (T49-E) *by Jack Rosebro*

charging stations typically offer DC charging, with charging rates as high as 350kW, rather than AC charging. The most common DC chargers, however, are not J1772, but Tesla’s proprietary Supercharger standard. Almost all EV manufacturers now plan to adopt a modified version of Tesla’s standard which will cover vehicle-to-load, vehicle-to-home, and vehicle-to-grid as well as vehicle charging. Charging, range, and battery life are often on EV drivers’ minds, As their trusted professionals, your customers will look to you to speak knowledgeably about their charging concerns as well as handle charging system issues that come into your shop. We’ll cover all of these subjects along with system function, failure, tooling, and diagnosis, and share case studies from Earthling Automotive’s EV repair shop.

### Unleash the Power of Your Scan Tool (T33-D) *by Luis Ruiz*

Scan tools have long since been a necessity for diagnosing and repairing vehicles. Modern scan tools have advanced functions such as graphing and recording capabilities that often go unused. Additionally, many technicians are not taking advantage of the ten OBD modes that exist on the generic side of their scan tool. Regulations for vehicles built from 2008 to present, require manufacturers to supply functions and data in a uniform and consistent layout in generic mode. In this class we will investigate the

ten OBD modes of operation in your scan tool and how to use them effectively. We will also explore how to record and review scan data for solving diagnostic mysteries.

After completing this class, a technician will be able to do the following:
- Identify the ten OBD modes
- Effectively use Freeze Frame information
- Effectively use the generic data stream
- Perform a VE calculation with one PID using generic data
- Operate solenoids and other outputs in generic mode
- Graph and analyze scan data in context
- Unleash the power of your scan tool!

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### Unlocking the Power of CAN Global OBDII (T18-B) *by Rick Escalambre*

This workshop is an in-depth look at Global MODE $01 through $0a used on all CAN-equipped vehicles. The information presented is a look “between the lines” at what the books don’t tell you about CAN OBDII used for gasoline and diesel-equipped systems. Understanding the information each MODE displays will decrease diagnostic time by reducing the number of PIDs viewed and analyzing MODE $06 test results. This information will help the technician understand and adapt to the new Unified Diagnostics Services (UDS) being phased in 2024. Knowledge of the advantages and disadvantages of each global MODE/Service of OBD on UDS will make a global scan tool (GST) a powerful tool in the right hands.

### Unlocking the Power of OBDII: 10 Modes of OBDII with Mode $06 (T65-F) *by Oscar Gomez*

Unlocking the Power of OBDII: 10 Modes of OBDII with Mode $06 is a comprehensive training course designed to enhance the diagnostic skills of automotive technicians using the On-Board Diagnostics II (OBDII) system. This course covers all 10 modes of OBDII, with a special focus on Mode $06, known for its advanced diagnostic capabilities. Participants will gain a deep understanding of OBDI to OBDII evolution, the advantages of OBDII, and its industry standardization. By the end of the course, participants will be proficient in utilizing Mode $06 and other modes to diagnose complex automotive problems.

### Which Scan Tool Should I Buy? (T19-B) *by Scott Shotton*

This offering will be good for both technicians and shop owners making tool buying decisions