



# Hybrid Diagnostics & Service

We'll take you beyond the basics!

Most Hybrids are out of warranty so now is the time for every shop to get REAL WORLD Diagnostics & Repair training. This course delivers a clear understanding of hybrid vehicles and how to diagnose and repair them using the equipment you already have in your shop. You will examine the Hybrid's subsystems, control systems & hardware choices. Even with the serious warnings about the high voltage components these complex systems are being repaired in the aftermarket shops.

The internal combustion engine must operate properly to get the mileage motorists expect. You will need to know about the drive system to understand the complex continuously variable transmission that splits power between the internal combustion engine and the electric traction motor. Some vehicles have two or three electric motors.

Drive train modules include regenerative braking, planetary gear sets, and launch control. Learn how to service these vehicles, safety issues, maintenance, and much more.

- Safety Precautions
- CAN (Controller Area Network)
- High Voltage Power Contactors
- High Voltage Battery Pack Leak Testing and Repair
- Electric Motors Operation, Inverters, Converters, Battery Packs
- Regenerative Braking, Safety Disconnects, Mild & Full Hybrids
- Boost Capacitors Operation
- Twin Cooling Systems
- PMLAC Motors
- Synchronous Motor Control

**DATE**  
 Monday, March 18<sup>th</sup>&  
 Tuesday, March 19<sup>th</sup>, 2019  
*Please Note Class is Both Nights*  
**TIME**  
 6:00 PM – 9:30 PM

**LOCATION**  
 Portland Comm. College  
 12000 SW 49th Ave,  
 Portland, OR 97219  
 Room# AM 208

**COST:** \$259.00  
**SIGN UP BY** March 4<sup>th</sup>  
**COST IS** \$209.00  
**REGISTRATION INCLUDES:**  
 Seat, Reference Manual  
 & Certificate of Completion

**CONTACT:**  
**ATA Representative:**  
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 3231 Business Park Dr. C 231  
 Vista, CA 92081  
 Fax1-888-255-7760

**INSTRUCTOR BIO: BILL PEAK**

Bill Peek is a presenter for the SAE Advanced Technology Conference, National ASA meetings at CARS as well as other regional meetings. Many technicians credit Bill's "Ford EEC IV Diagnostic Manual" with helping them become Master Ford technicians. As the Director of Product Management at OTC, Bill introduced the first cartridge-based update for Scan Tools. Bill, along with Dr. Norman Nall (Doc) are recognized as the creators of their interactive diagnostic DVDs that are widely used in most repair shops. Doc Nall and Bill Peek have been developing training programs together for more than 20 years.

Date:	Contact:	Company
Billing Address:	City:	State      Zip
Work Phone:	Fax:	Email Address:
Credit Card Number:	Exp: Date	MC/VISA/AMEX
<b>ATTENDEE NAMES:</b>		
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