If your scan tool shows the heated oxygen sensor voltage is stuck under 500mV, should the fuel trims be positive or negative? The latest ACDelco instructor-led training course, After Combustion Sensors (S-EP08-06-01), answers that question as it covers the relationship between heated oxygen sensors (HO2S), fuel trims and catalytic converters.

The course uses real-world vehicle scenarios from several manufacturers to highlight the best techniques and tools to use to effectively diagnose after combustion components.

The course covers:
- Narrow band HO2S operation and diagnosis
- HO2S location designations
- Wide band HO2S operation and diagnosis
- HO2S testing
- HO2S circuit testing
- Exhaust system leak testing procedures
- Fuel trim system lean DTCs P0171 and P0174.

HO2S Operation

Using real-world scenarios, the course covers narrow band and wide band heated oxygen sensors. For example, the wide band HO2S operation in the 2007 Cadillac CTS is highlighted along with related DTCs P0130 and P0150 (HO2S voltages). These DTCs will set when the ECM detects that the HO2S signal voltage is out of range for more than four seconds.

The course reviews the circuit/system testing for these DTCs, including testing for a bias voltage across the reference voltage circuit and the low reference circuit of the HO2S. If there is a condition with these circuits, the bias voltage will not be within the specified range. The testing also covers the input pumping current circuit and the pump current...
New After Combustion Sensors Training – continued from page 1

circuit of the HO2S. If there is a condition with one of these circuits, the other circuit will be affected.

Fuel Trim

The PCM controls the air/fuel metering system to provide the best combination of drivability, fuel economy and emission control. If the oxygen sensors indicate a lean condition, fuel trim values will be above zero percent; and with a rich condition, the values will be below zero percent.

One fuel trim example covers DTCs P0171 and P0172 on a 2005 Taurus and the possible causes for the DTCs in the fuel system, air induction system, exhaust system, EGR system, secondary air injection system and air measurement system. Related service bulletins, such as vacuum leakage noise with lean codes, also are covered.

Catalytic Converter Operation

Catalytic converter operation and diesel exhaust aftertreatment system operation also are discussed in the course.

It covers the diagnosis of a variety of DTCs. For example, DTC P0420, rear bank catalyst efficiency below threshold, and DTC P0430, front bank catalyst efficiency below threshold, on the Honda Accord V6 are reviewed. The Honda V6 engine uses three catalytic converters — only two of which are monitored and can set DTCs.

The diesel exhaust aftertreatment system information highlights the system on the 2011 Chevrolet Silverado 6.6L diesel engine. It covers the roles of the Diesel Oxidation Catalyst, Selective Catalyst Reduction and the Diesel Exhaust Fluid in reducing the levels of hydrocarbons, carbon dioxide, oxides of nitrogen and particulate matter in the exhaust gases.

Check It Out

In addition to the After Combustion Sensors course, ACDelco offers a variety of other instructor-led, hands-on courses at training center locations around the country. To view all the latest training courses available, including classroom training as well as web-based courses, log in to the ACDelco Learning Management System (LMS) by clicking the Training tab at www.acdelcotechconnect.com.

– Thanks to Rick Balabon
Absorbent Glass Mat Batteries

Up until the Absorbent Glass Mat (AGM) battery was introduced, automotive starting batteries always contained lead plates submerged in liquid electrolyte. The AGM battery eliminates the need to immerse the plates. The result is a battery that is lighter (a critical aspect with today’s increasing focus on fuel economy) for the amount of power it can produce. It’s also more durable in many applications and has extended life when compared to a traditional flooded-cell battery.

Currently, an AGM battery is standard equipment in the Chevrolet Volt and Cadillac ATS. ACDelco offers an AGM battery for many applications as well as a special EREV (Extended Range Electric Vehicle) AGM battery for the Volt.

The AGM battery may be used in place of a conventional battery. Just be sure to match the Cold Cranking Amp (CCA) and Reserve Capacity ratings.

Inside the Battery

The AGM battery has a lifetime supply of electrolyte in its absorbent glass mat fiberglass separators that are held in contact with the lead plates. The chemical reaction that takes place between the sulfuric acid in the electrolyte and the lead oxide in the lead plates create the electrical flow. The sealed AGM battery also uses gas recombinant technology that causes the hydrogen and oxygen byproducts — two natural byproducts that are produced when water in the electrolyte decomposes during charging — to convert directly back into water so the absorbed electrolyte replenishes itself.

The battery does not have any vent plugs. It may have up to six vent relief valves that allow the small amount of gas that is produced when charging to escape.

Testing and Charging

Testing and charging the AGM battery is different from regular lead acid batteries.

When using any battery charger, check that it is set up properly to charge an AGM battery, including selecting the proper battery type, AGM setting, and CCA during charger set up. Selecting the wrong type of battery and CCA could cause misdiagnosis and/or overcharging of the battery, which could lead to inadvertent battery replacement or battery damage.

The time required to charge a battery will depend upon the battery charger capacity, the state of charge of the battery (a discharged battery with a voltage below 11 volts will have a very high internal resistance and may only accept a very low current at first), the temperature of the battery and battery capacity.

Use a taper-rate charger that reduces the charging rate as the battery approaches full charge, then stops the charge or switches to a float charge status when full charge is reached.

In addition, when load testing an AGM battery make sure to connect the tester directly to the battery and not to the remote connection under the hood.

When charging, it is recommended to connect the charger directly to the battery if the battery is accessible. If the battery is not accessible, such as a dead battery and the cargo area cannot be opened, it is OK to charge or jump-start the vehicle from the remote access area under the hood as long as 40 amps is not exceeded by the charging device.

– Thanks to John Munsell

2013 ASE Testing Dates Announced

ASE has announced several 2013 testing dates.

Winter 2013
• Registration Dates: December 1, 2012 – February 21, 2013
• Test Dates: January 2, 2013 – February 28, 2013

Spring 2013
• Registration Dates: March 1, 2013 – May 21, 2013
• Test Dates: April 1, 2013 – May 31, 2013

Summer 2013
• Registration Dates: June 1, 2013 – August 21, 2013
• Test Dates: July 1, 2013 – August 31, 2013

Register online at www.myASE.com or by calling ASE testing partner, Prometric, at 1-877-346-9327.

ASE test prep study guides are available through the ACDelco Learning Management System (LMS) on www.acdelcotraining.com. The study guides cover the Automotive Tests (A1-A8), the Service Consultant Test (C1), Compressed Natural Gas Vehicle Test (F1) and Exhaust Systems Test (X1).

To access the study guides, perform a catalog search on the ACDelco LMS. Select Course Name contains “ASE” and the Course Delivery Type of Self Study.

– Thanks to Greg St. Aubin
Tips for Successful Brake Service

The keys to a successful brake service involve making the right call on rotor refinishing, cleaning all components and proper assembly. The result: a brake service that leaves the rotors with plenty of life and without unacceptable noise.

Brake Noise

Some brake noise is normal and differences in loading and driving style can affect brake wear. Inspect all metal-to-metal contact areas between pads, pad guides, calipers and knuckles, which should be clean and lubricated with a thin layer of high temperature silicone grease (use ACDelco Silicone Brake Lubricant, part number 88862182).

The lubricant, when applied to the back of each pad, acts as a brake dampening compound that allows parts to slide freely and not vibrate when moving relative to each other.

The following noises may be normal characteristics of a braking system and do not indicate improper operation.

- Squeak/squeal noise – Occurs with front semi-metallic brake pads at medium speeds when light to medium pressure is applied to the brake pedal.
- Grinding noise – Common to rear brakes and some front disc brakes during initial stops after the vehicle has been parked overnight. This is caused by corrosion on the metal surfaces during vehicle non-use.
- Groan noise – May be heard when stopping quickly or moving forward slowly from a complete stop. During hard braking applications, this noise is a normal function of the anti-lock brake system activation.

Rotor Refinishing

Before refinishing brake rotors, refer to the Minimum Thickness specification in the appropriate Service Information.

Cleaning Brake Rotors after Refinishing

GM now recommends washing brake rotors with soap and water after refinishing. It has been determined that soap and water, such as a mild dish washing soap, is more effective in cleaning rotors than using denatured alcohol or approved brake cleaner.

Index the tire and wheel assembly, use an appropriate torque pattern, and torque the lug nuts to spec using a torque wrench.

Brake Pad and Rotor Burnishing

Burnishing the brake pads and rotors helps to ensure that the braking surfaces are properly prepared after service has been performed. The burnishing procedure should be performed whenever the brake rotors have been refurbished or replaced, and/or whenever the brake pads have been replaced.

1. Select a smooth road with little or no traffic.
2. Accelerate the vehicle to 30 mph.
3. Using moderate to firm pressure, apply the brakes to bring the vehicle to a stop. Do not allow the brakes to lock.
4. Repeat these steps for approximately 20 stops. Allow sufficient cooling periods between stops in order to properly burnish the brake pads and rotors.

– Thanks to Rick Balabon
New Dual Brake Pedal Position Sensor

New for many 2012 and later model year GM passenger cars and trucks equipped with an automatic transmission is the Electronic Brake Pedal Override feature, which reduces engine power if it detects that the brake pedal is applied while the accelerator is also applied. The Electronic Brake Pedal Override uses a dual Brake Pedal Position (BPP) sensor (two sensors in one). The dual BPP sensor replaces the old style open/closed brake switch that has been used for years.

The dual BPP sensor is actually two separate variable resistors (two separate potentiometers activated by the same connection to the brake pedal arm), each working similarly to a Throttle Position Sensor. The resistors are housed in the same part and are not replaceable separately. The dual BPP sensor has three wires leading to the ECM and three different wires leading to the BCM.

Items that may disable the Electronic Brake Pedal Override include TCS disable, Vehicle Stability Enhancement System disable, 4WD Low range, and automatic transmission ranges M3, M2, and M1.

Relearn Procedure

After various service repairs, the dual BPP sensor requires a relearn procedure in both the BCM and ECM (refer to the appropriate Service Information for reprogramming or relearn procedures after replacing components). The relearn procedures will set the dual BPP sensor’s home values.

The BCM’s value is used to determine the action of the driver applying the brake pedal and to provide this information to the vehicle’s subsystems via the GMLAN communication bus. The ECM’s value is used for the new Electronic Brake Pedal Override feature.

The following service repairs will require a dual BPP sensor relearn:

- Replacement or removal of the brake pedal hardware
- Replacement or removal of the Brake Pedal Position sensor
- ECM replacement and/or reprogram
- BCM replacement and/or reprogram
- Installation of any GM accessory that requires programming of the ECM or BCM.

Symptoms of an unlearned or incorrectly learned dual BPP sensor include:

**BCM**

- DTC C0161 (ABS Brake Switch Circuit) will set in the Electronic Brake Control Module (EBCM)
- Service Stability message
- DTC C0277 Sym4B (Brake Master Cylinder Piston Position Sensor) – Home position not learned
- Brake lights stay on without brake pedal applied
- Must press down farther than normal on the brake pedal to disengage the cruise control
- Must press down farther than normal on the brake pedal to turn on the brake lights

**ECM**

- Unwanted Electronic Brake Pedal Override activation (low power, feels like the vehicle is in a traction control or stability control event). If the Traction Control System (TCS) is turned off, the condition will not be present. There will be no indication to the driver that the system is active.

- Thanks to James Will and Jack Woodward

**VISION Hi-Tech Training Conference 2013**

The Vision Hi-Tech Training & Expo hosted by the Automotive Service Association of Missouri/Kansas City is being held March 7-10, 2013 at the Overland Park Convention Center in Overland Park, Kan.

During the four-day training conference and exposition, ACDelco is sponsoring four training sessions covering charging and starting systems, scan tools, climate controls, and engine performance diagnosis.

**Advanced Charging & Starting Systems** focuses on various starting and charging systems from stand-alone controls to PCM/BCM-interfaced systems, with an emphasis on proper diagnostics and service procedures. Electronic power management, regulated voltage control, load shedding, and battery rundown protection will be discussed.

**Aftermarket Scan Tools: They Are Not All the Same** reviews the features, outputs controls, special functions, and data parameters of the Tech 2, GM Global Diagnostic System 2, Tech2Win, OTC Genisys, and Snap-On Verus scan tools. The intent is to demonstrate a straight-forward comparison of the features and differences of each unit rather than teach how to operate each scan tool.

**Interior Comfort Controls** uses real-world scenarios based on vehicles from several manufacturers to cover all aspects of heating, ventilation, and air conditioning (HVAC) systems. The training covers the inputs and outputs that enable HVAC operation and those that can affect HVAC performance.

**Beyond the Four Strokes** discusses what to do when you have swapped plugs, injectors, and coils, and there still is a misfire. Real world scenarios based on vehicles from several manufacturers provide the focus for engine mechanical-related misfire diagnosis, SIDI engine service techniques, and most recent engine sensor technology.

For more information about the training available during the conference, visit www.visionkc.com.

- Thanks to Rick Balabon
MechanicNet Mobile Marketing Solutions

MechanicNet, ACDelco’s marketing vendor, is introducing several Mobile Marketing Solutions to help service centers improve customer retention and acquire new customers by taking advantage of the exploding growth in the use of smartphones and tablets.

M Texting

One solution is M Texting, a time saver for service centers and customers. With M Texting, service center employees can send and receive text messages from any computer in the shop. This eliminates leaving voicemails and waiting for a callback, which can delay services and disrupt schedules.

Instant messaging with M Texting can be used to:

- Notify customers their vehicle is ready
- Ask customers to approve a service quote
- Ask customers to contact the service center
- Deliver a custom message

MechanicNet has found that service centers using M-Texting have dramatically improved response time from customers as well as increase customer satisfaction due to the ease of communication.

Mobile Websites

Approximately half of all local searches are now performed on mobile devices. With the increasing trend of using mobile devices, MechanicNet is designing mobile sites for a smaller screen so they look better and are easier to use on a smartphone or tablet.

MechanicNet makes it simple to update a service center’s current website to include a mobile version.

Using a mobile site, customers can use their mobile devices to:

- Schedule service appointments
- See the services offered by the shop
- Find hours of operation and the shop’s location
- View promotions
- Check their next scheduled service

MechanicNet offers a number of ways to keep pace with today’s technology. The Mobile Website & M-Texting package is available now for just $34.95 per month. For more details, call MechanicNet at 1-877-632-4638.

– Thanks to Jill Brown

Like ACDelco on Facebook

The official ACDelco Facebook page is a great place to connect with an online community of auto experts and enthusiasts looking for information about automotive parts and service as well as sharing their passion about everything automotive.

On the ACDelco Facebook page, you can find information about the latest ACDelco seminars and events, sweepstakes and promotions, locations for service centers and parts stores, and more.

All things ACDelco are covered: some posts share classic ads going back through ACDelco history while others reveal “Guess the Part.” There also are links to training videos that service centers can direct their customers to for helpful advice on how ACDelco parts help their vehicles run their best.

To visit ACDelco on Facebook, go to www.facebook.com/acdelco and sign in today.

– Thanks to Cindy Schafer
Passenger Compartment Air Filter


Starting with the 2013 model year, the passenger compartment air filter is no longer available as a factory option. With the redesigned HVAC case, the opening for the filter cavity no longer exists.

Ground Strap Inspection

1998-2002 Chevrolet Express and GMC Savana (equipped with the 6.5L Diesel Engine); 2003-2007 Chevrolet Express and GMC Savana.

The Anti-Lock Brakes (ABS) and Traction Control System (TCS) warning lamps may illuminate on these vehicles due to various electrical issues. Technicians may find that there is no communication with the Electronic Brake Control Module (EBCM) or possibly any Class 2 modules when the condition is present.

If, after normal diagnostics, a repair is not found, inspect the braided ground strap from the engine to the frame. If the ground strap is damaged, follow the appropriate Service Information to make any repairs.

TPM Sensor Activation

When performing the Tire Pressure Monitor (TPM) learn procedure on GM vehicles, it’s critical to properly position the TPM sensor tool — either special tool J-46079/EL-46079 or the new orange activation tool EL-50448. The TPM tool antenna should NOT be pointed at the tire valve stem or held at a significant angle in a variety of directions.

Before using an activation tool, make sure the tool battery is fully charged.

To begin the learn procedure, enable the TPM learn mode (indicated by a double horn chirp) using a scan tool or the BCM diagnostic interface. When the horn chirp for the left front tire is heard, position the tool so that the antenna is perpendicular (90 degrees) against the tire sidewall close to the wheel rim at the valve stem location. If the tool is not held in the correct location, the sensor will not be activated.

With the tool correctly positioned, press and release the activate button once. The transmit indicator on the tool should show that the sensor activation signal is being transmitted. A horn chirp will sound when the sensor information is learned.

In the event that a particular sensor is being activated and the horn does not chirp, it may be necessary to rotate the wheel to a different position because the sensor signal may be being blocked by another component. Repeat the sensor activation sequence.

Changing Tire and Wheel Size

When attempting to change tire size on mid-size and full-size GM trucks and SUVs, it is important to understand that GM will only support tires that have been sized, tested and designed for the vehicle in question and its applications. Do not use the information offered in the ABS module (tire size selection) as a guide to see what tires are applicable to the vehicle in question. Keep in mind, changing the tire size in the ABS module will only affect ABS wheel speed sensor calibrations that are direct inputs to the ABS module. It will not correct or calibrate the speedometer’s accuracy, and will not change the calibration of the ABS rear speed sensor value on vehicles that obtain rear wheel speed data from the ECM/PCM/VCM via the Vehicle Speed Sensor (VSS).

For example, on a 2004 Chevrolet Colorado LS with P235/75/R15 tires, the ABS module shows that P265/75/R15 tires can be programmed; however, the P265/75/R15 tires will only fit under a Colorado with the Z71 suspension, which will offer acceptable wheel clearance. Therefore, a calibration is not offered for this application.

If GM Accessories has released an approved tire wheel combination that has been tested and validated by GM Engineering, a calibration will be available for the specific application.

Product Information

For free technical assistance and product information regarding specific ACDelco products, contact these toll-free information hotlines staffed by ASE-certified technicians:

<table>
<thead>
<tr>
<th>Service</th>
<th>Hotline Number</th>
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</thead>
<tbody>
<tr>
<td>Brakes</td>
<td>1-888-701-6169 (prompt #1)</td>
</tr>
<tr>
<td>Chassis</td>
<td>1-888-701-6169 (prompt #2)</td>
</tr>
<tr>
<td>Clutches</td>
<td>1-888-725-8625</td>
</tr>
<tr>
<td>Lift Supports</td>
<td>1-800-790-5438</td>
</tr>
<tr>
<td>Shocks</td>
<td>1-877-466-7752</td>
</tr>
<tr>
<td>Starters and Alternators</td>
<td>1-800-228-9672</td>
</tr>
<tr>
<td>Steering (Pumps, Rack and Pinion, Gears)</td>
<td>1-866-833-5567</td>
</tr>
<tr>
<td>Wiper Blades</td>
<td>1-800-810-7096</td>
</tr>
</tbody>
</table>
How to Take AC Delco Training
Go to www.acdelcotechconnect.com and click the Training tab to log in to the AC Delco Learning Management System (LMS).

• To enroll in courses in your training path, open the home page to view your Training Progress Status Report, select Click Here to Show Detail, and then click the course number and title to view details on a specific course and to launch or enroll in the course.

• To enroll in an Instructor-Led Training (ILT) course (ILTs are full-day hands-on classroom courses), click Take Training > Instructor-Led Training to view the catalog and select a specific course.

• To enroll in a Virtual Classroom Training (VCT) course (VCTs are 1-2 hour live online courses), click Take Training > Virtual Classroom Training to view the catalog and select a specific course.

• To launch a Web-Based Training (WBT) course (WBTs are 1-4 hour self-guided online courses), click Take Training > Web-Based Training to view the catalog and select a specific course.

• To launch a TechAssist (TAS) course (TAS courses are 15-20 minute live online presentations on a specific topic), click Take Training > TechAssist to view the catalog and select a specific course.

• To launch a Simulation (SIM) (SIMs require users to complete all repairs for a condition), click Take Training > Simulations to view the catalog and select a diagnostic challenge simulation.

Training Spotlight
S-EM01-01.01VCT-R – Camshaft Position Actuator Systems Recorded
This course provides a general overview of camshaft position actuator systems, including variable valve timing, benefits, components, and valve overlap. It covers actuator components and operation for specific engine groups. Diagnostic procedures are reviewed for camshaft position actuator systems, including electrical, mechanical, and correlation diagnostic trouble codes.

S-AC07-02.01VCT-R – HVAC System Operation and Service Hints Recorded
This course includes information that will help technicians diagnose and repair customer concerns related to the HVAC system. Specific topics include air conditioning (A/C) system operation; specifically, changes to the state of refrigerant, pressure and temperature, safety procedures for servicing the A/C system, and diagnostic procedures for common A/C customer concerns.

Training Schedule
To search for currently scheduled courses in your area, view the Training in Your Area section on the Home page. Select search terms from the dropdown menus and click the Submit button.

– Thanks to Greg St. Aubin

Current Instructor-Led Training Courses
The following ILT courses are currently being scheduled:

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Name</th>
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<tr>
<td>S-AC07-02.01ILT</td>
<td>Automotive Air Conditioning Advanced Refrigerant System Diagnostics</td>
</tr>
<tr>
<td>S-AC07-03.01ILT</td>
<td>HVAC Control System Operation and Diagnostics</td>
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<td>S-BK05-01.01ILT</td>
<td>Braking Systems</td>
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<td>S-BK05-02.01ILT</td>
<td>ABS Operation and Diagnosis</td>
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<td>S-EL06-04.02ILT</td>
<td>Network Communication Diagnosis</td>
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<td>S-EL06-10.02ILT</td>
<td>Electrical Power Management</td>
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<tr>
<td>S-EL06-11.01ILT</td>
<td>Automotive Electrical Circuit Diagnosis and Repair</td>
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<td>S-EL06-11.02ILT</td>
<td>Enhanced Automotive Circuit Diagnosis</td>
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<td>Hybrid Technology and Service</td>
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<td>S-EL06-13.01ILT</td>
<td>Body Electrical Global Diagnostics</td>
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<td>S-EL06-14.01ILT</td>
<td>Advanced Body Control System Electrical Diagnostics</td>
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<td>S-EP08-02.01ILT</td>
<td>Engine Performance Computer Controls and Ignition System Diagnostics</td>
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<td>S-EP08-03.01ILT</td>
<td>Engine Performance Air Induction and Fuel System Diagnostics</td>
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<tr>
<td>S-EP08-04.01ILT</td>
<td>Engine Performance Fault Monitoring and Emission System Diagnostics</td>
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<tr>
<td>S-EP08-05.01ILT</td>
<td>Engine Performance Advanced Drivability Diagnostics</td>
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<tr>
<td>S-EP08-06.01ILT</td>
<td>After Combustion Sensors: Is what is in the exhaust making your engine run rough?</td>
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<tr>
<td>S-EP08-08.01ILT</td>
<td>Evaporative Emissions Controls: Why is there always a code but never a leak we can find?</td>
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<tr>
<td>S-EP08-09.01ILT</td>
<td>Spark Generation: Is a lack of spark sending you up in flames?</td>
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<td>S-EP08-81.01ILT</td>
<td>Duramax 6600 Diesel Engine Performance</td>
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<td>S-EP08-81.02ILT</td>
<td>Duramax Diesel Operation and Diagnosis</td>
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<td>S-SS04-01.01ILT</td>
<td>Vibration Correction Diagnostics</td>
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<td>S-ST10-01.01ILT</td>
<td>Supplemental Restraint Systems</td>
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Current Virtual Classroom Training Courses
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<th>Course Number</th>
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<tr>
<td>S-AC07-01.01VCT</td>
<td>HVAC System Components and Lubricants</td>
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<tr>
<td>S-AC07-02.01VCT</td>
<td>HVAC System Operation and Service Hints</td>
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<tr>
<td>S-AC07-03.01VCT</td>
<td>HVAC System Flushing, Recovery and Diagnostics</td>
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<td>S-AC07-04.01VCT</td>
<td>HVAC System Engine Cooling, Controls and Communication</td>
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<td>S-EL06-01.01VCT</td>
<td>Electrical Circuit Function and Diagnosis</td>
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<td>S-EL06-02.01VCT</td>
<td>Testing Electrical Signal and Control Circuits</td>
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<td>S-EL06-03.01VCT</td>
<td>Serial Data Communication Networks</td>
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<td>S-EL06-04.01VCT</td>
<td>Communication Network Diagnosis</td>
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<td>S-EL06-06.01VCT</td>
<td>Two-Mode Hybrid System Safety and Special Tools</td>
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<td>Two-Mode Hybrid System Diagnosis and Repair</td>
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<td>S-EM01-01.01VCT</td>
<td>Camshaft Position Actuator Systems</td>
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<td>S-EM01-02.01VCT</td>
<td>Active Fuel Management Operation</td>
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<td>S-EM01-03.01VCT</td>
<td>Active Fuel Management Diagnosis</td>
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<td>S-EP08-01.01VCT</td>
<td>6.6L Duramax Engine Diagnosis</td>
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<td>S-EP08-02.01VCT</td>
<td>6.6L Duramax LMM Diesel Engine</td>
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<tr>
<td>S-EP08-03.01VCT</td>
<td>6.6L Duramax LGH and LML Diesel Engines</td>
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