ACDelco’s approach to training combines a variety of proven training delivery methods to ensure the maximum learning benefit for the service professional.

2019 Training Course Catalog
Instructor-Led Training
Half Day Training
Seminars
InShop Training
Web-Based Training
TECHAssist
Simulations
Self Study Training
Video on Demand
TechTube Videos

Access training at www.acdelcotraining.com
Contact us at (800) 825-5886; prompt 1.
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INTRODUCTION

ACDelco History

1900s

THE SPARK IGNITES
It began with William Durant and his United Motors Corporation, which acquired the dozens of smaller parts manufacturers, including Dayton Engineering Laboratories Company (DELCO). When General Motors came along, changing United Motors Corporation to United Motors Service and adding AC Spark Plug to the roster, only the sky was the limit.

1920s

LUCKY LINDY
Literally! When Charles Lindbergh set off in the Spirit of St. Louis to become the first person in history to be in New York one day and Paris the next, AC Spark Plug helped power the transatlantic journey that captured imaginations around the world.

1930s

QUEEN OF THE AIR
But there was more aviation history to be made, and we helped Amelia Earhart make it. The plane in which Earhart became the first woman pilot to fly solo across the Atlantic (in under 15 hours) featured AC spark plugs.

1940s

BUILDING FOR VICTORY
The 1940s brought the challenging, threatening years of World War II, and both UMS and AC Spark Plug parts went to work for the Allied cause. We also took to the skies again, producing DELCO batteries for Navy planes.

1950s

PEACETIME EXPANSION
Having helped secure a brighter future for all, we got to work building our own, United Motors Service branched out, and began providing sales, service and training for AC rebuilt fuel pumps, DELCO batteries, DELCO radio service parts, Saginaw recirculating-ball bumper jacks and more.

1960s

OUT OF THIS WORLD
But the space race was on, and we were proud parts of it. In fact, AC Spark Plug and Delco Electronics teams helped NASA develop the inertial guidance systems for the entire Apollo program that took the first Astronauts to the moon.

1970s

NEW FRONTIERS
We didn’t stop there. Once man landed on the moon, he needed a way to explore it, So AC Spark Plug and DELCO (which General Motors united to form ACDelco), helped to create key components of the lunar rover vehicle used by Apollo 15 Astronauts.

1980s

THE RIGHT FIT
Back on solid ground, we kept our minds on science. With field resources deployed to support the aftermarket, service engineers were brought into the engineering of GM vehicles to ensure that ACDelco parts fit exactly like true GM Original Equipment should.

1990s

SPEEDING AHEAD
Then we made the most of solid ground by hitting the track, with ACDelco sponsoring multiple drivers in leading motorsports events throughout the last decade of the millennium.

2000s

A GLOBAL IMPACT
The new millennium brought new and exciting ways to connect; online commerce helped ACDelco expand its already extensive reach, with distribution across North America, Africa, and countries including Japan and India.

ACDelco Training Mission Statement
ACDelco’s mission is to provide aftermarket service professionals with the skills necessary to help safely and effectively diagnose and repair customer vehicles utilizing inviting education methods within an extensive and engaging training portfolio.
Learning Management System

ACDelco’s Learning Management System (LMS) offers single source access for training 24/7.

What is it?
The ACDelco LMS delivers a global, single point of access for training for all personnel. The LMS is an easy-to-use, web-based application that streamlines the delivery and administration of the training program. Its many features reduce overall training costs and maximize employee time on the job.

What can it do?
• Offers a web-based, single point of access to training courses and student history
• Contains simple navigation that flattens the learning curve for Web-Based Training (WBT)
• Allows for scheduling and enrolling in Instructor-Led Training (ILT) events
• Permits access to comprehensive training materials
• Tracks learner progress
• Includes assessment / testing capabilities
• Ensures security of data

The ACDelco LMS enhances the ability to improve organizational skills and performance, without reducing employee productivity. It provides the strong foundation needed for any learning program. Currently the LMS supports Web-Based Training (WBT), simulations, Instructor-Led Training (ILT), and streaming video.

If you have any questions or would like any additional information, contact your ACDelco Representative or the Help Desk at (800) 825-5886, prompt 1
Access the ACDelco LMS:
1. Open your Internet browser
2. Type the following into your address bar: acdelco.com
3. Click on the For Professionals menu
4. Click on Training Resources
5. Click on the LAUNCH ONLINE TRAINING option

Tip:
If you are an ACDelco program member, you must know your six-digit account number to register. If you don’t know it, ask your manager or ACDelco rep.

Arrive at the ACDelco LMS login page.

Create an Account:
6. Click on Create a New User Account
7. Complete the New User form

8. Click **Submit**

9. The system will generate a password for you, but you will be prompted to change it

**Tip:**
*After registering, you will be prompted to change your password right away. Remember to write down your log-in ID!*

**Log in to the LMS:**
10. Return to the Home page by clicking on the ACDelco logo at the top
11. Enter your login information
12. Click **Submit**
ACDelco Training Approach

ACDelco’s approach to training combines a variety of proven training delivery methods to ensure the maximum learning benefit for the service professional. In addition to traditional instructor-led technical training courses & seminars, a wide selection of online courses are also available. Online courses offer the latest available business & technical updates right at your fingertips.

ACDelco’s training approach offers online courses 24/7 which allow participants to complete the courses at their own pace and on their own schedule. In addition, they precisely dovetail into hands on, Instructor-led Training courses.

Descriptions of the various delivery methods are detailed below.

Online Training

Each course is available to non-program participants for a nominal charge. Visit acdelcotraining.com or contact your ACDelco representative for more information.

- **SELF STUDY TRAINING** courses are downloadable packets of technical information that can typically be reviewed in less than one hour. These guides are intended to help participants understand the technical aspect of various vehicle systems. Participants have the option to complete a test once material has been reviewed to receive credit for the course.

- **WEB-BASED TRAINING** courses range from 1-2 hours in length. Content is presented through voiceover narration, on-screen text, graphics, animations and videos. Technicians are tested on their progress frequently by completing activities and tests.

- **TECHASSIST** are shorter versions of WBT courses, typically 15-20 minutes in length. These courses provide technicians with content tailored to a specific task, procedure or common concern, and are designed to provide highly relevant information about current challenges technicians face.

- **SIMULATIONS** address challenging diagnostic scenarios by presenting the technician with a virtual repair order, access to Service Information and fully-functional tools needed to service the repair. These courses bring a hands on environment to the web and are just as accessible and convenient as WBT and TECHAssist.

- **VIDEO ON DEMAND** courses offer technicians the ability to view previously recorded content at any time. These videos are searchable, include the ability to navigate through specific topics, and are now compatible with mobile phones and tablet devices.

- **TECHTUBE VIDEOS** are short videos that focus on specific diagnostic procedures. Typically 3-7 minutes in length, these brief instructional videos offer a quick and convenient way to view various topics of instructional interest.

Courseware pricing is dependent upon program participation. Contact your ACDelco representative or visit acdelco.com for more information.
INTRODUCTION

Face-to-Face Training

INSTRUCTOR-LED TRAINING courses are available in full-day (8 hour) sessions, and are presented by an ACDelco instructor. Training is presented utilizing vehicles, hands-on exercises and diagnostic situations. Registration for these courses can be accessed through the ACDelco Learning Management System (LMS).

HALF DAY TRAINING courses are half day versions of full-length ILT sessions. An ACDelco Instructor leads the group through on-vehicle exercises and diagnostic skills in half the time. These sessions are tailored for those who want the benefits of Instructor-Led Training, but may not be able to commit to an entire day.

SEMINARS are 3-hour sessions that are interactive and fast-paced and are presented by an ACDelco professional in a shop or distributor facility. Seminars are designed to keep technicians abreast of rapidly changing vehicle technology, product information and diagnostic tips on ACDelco’s top product lines.

INSHOP TRAINING sessions are shorter Seminars, usually about an hour in duration. During InShop sessions, the ACDelco professional brings a live procedure or demonstration right into the service bay. They are designed for much smaller audiences - typically less than 5 technicians - and the format is more informal than a full Seminar.

Courseware pricing is dependent upon program participation. Contact your ACDelco representative or visit acdelco.com for more information.
ACDelco Training Course Numbering Methodology

Each ACDelco training course has a unique number. This number not only individually identifies each course for enrollment and credit tracking, but is combined with an alpha or numeric suffix to inventory all associated course materials.

**Anatomy of a Course Code (Courses in 2018 and beyond)**

**Sample - SEM0101IL**

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<th>Version Number</th>
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<td>EM = Engine Mechanical</td>
<td>01 = 1st release</td>
<td>IL = Instructor-Led 8 Hour</td>
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<tr>
<td>B = Business</td>
<td>AT = Automatic Transmission</td>
<td>02 = 2nd release</td>
<td>HD = Instructor-Led 4 Hour</td>
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<td>MT = Manual Transmission / Driveline</td>
<td>03 = 3rd release</td>
<td>IS = InShop</td>
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<tr>
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<td>SS = Suspension / Steering</td>
<td>04 = 4th release</td>
<td>SM = Seminar</td>
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<tr>
<td></td>
<td>BK = Brakes</td>
<td></td>
<td>SL = Simulation</td>
<td></td>
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<tr>
<td></td>
<td>EL = Electrical / Electronic Systems</td>
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<td>SF = Self Study</td>
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<td>AC = Heating &amp; Air Conditioning</td>
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<td>TA = TECHAssist</td>
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<td></td>
<td>EP = Engine Performance</td>
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<td>TT = TechTube</td>
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<td></td>
<td>ST = Safety &amp; Security</td>
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<td>DS = Diagnostic Systems</td>
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<td>WB = Web-Based</td>
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<td>CC = Customer Communications</td>
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<td></td>
<td>SC = Service Consultants</td>
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<td></td>
<td>FM = Financial Management</td>
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<tr>
<td></td>
<td>PC = Parts Consultant</td>
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<tr>
<td></td>
<td>FN = Fundamentals</td>
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<td>CL = Collision</td>
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<td>DE = Diesel</td>
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<td>AP = Alternative Propulsion</td>
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<td>BE = Body Electrical</td>
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**Anatomy of a Course Code (Courses prior to 2018)**

**Sample - S-FN00-01.01HDT**

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<td>BK05 = Brakes</td>
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<td>EL06 = Electrical / Electronic Systems</td>
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<td>TAS = TECHAssist</td>
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<tr>
<td></td>
<td>AC07 = Heating &amp; Air Conditioning</td>
<td></td>
<td>VID = TechTube Video</td>
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<td>EP08 = Engine Performance</td>
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<td>VOD = Video on Demand</td>
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<td>ST10 = Safety &amp; Security</td>
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<td>CC60 = Marketing</td>
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<td>SC31 = Service Consultants</td>
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<td>FM32 = Financial Management</td>
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<td>PC33 = Parts Consultant</td>
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<tr>
<td></td>
<td>FC02 = Fuel Control</td>
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</table>
INTRODUCTION

Searching for Courses

To search for courses, click on the TAKE TRAINING menu, and then Catalog > Catalog Search. Use the menu on the left to search for courses by Category, Delivery Type, or Person Type.

![Course Search Screen]

To search courses live in your area, click on the TAKE TRAINING menu, and then Schedule > Search Course Sessions. Enter your search criteria and click Submit.

If you are not a current user or need help with your user ID and password, contact the Help Desk between 8:00 a.m. and 5:00 p.m. (EST) at 1-800-825-5886 and select prompt 1. You will need your organization’s six-digit account number available to register as a user.

My User ID: _______________________________ My Password: ______________________________________
Self Study Training

Self Study Training courses are downloadable packets of technical information that can typically be reviewed in less than one hour. These guides are intended to help participants understand the technical aspect of various vehicle systems. After reviewing the information, participants may receive credit for the course by completing a test.

Web-Based Training

Web-Based Training courses are typically 1-2 hours in length. Content is presented through voiceover narration, on-screen text, graphics, animations and videos. Technicians are tested on their progress frequently by completing activities and tests.
INTRODUCTION

Instructor-Led and Half Day Training

Instructor-Led Training courses are full-day courses facilitated by an ACDelco instructor. Training is presented utilizing vehicles and hands-on exercises, providing technicians the opportunity to apply diagnostic skills to real concerns on actual vehicles.

ACDelco also offers Half Day Training sessions, which allow technicians to experience the same elements as a full-day ILT session, but in half the time. These 4-hour hands-on sessions are facilitated by an ACDelco Instructor at a dedicated training center. Training is presented utilizing vehicles and hands-on exercises, providing technicians the opportunity to apply diagnostic skills to real concerns on actual vehicles. Enroll in a course today by accessing the schedule search feature at acdelcotraining.com.

Seminar

Seminars are typically three hours in length and are hosted by an ACDelco professional at a shop or distributor facility. Seminars cover the latest and greatest vehicle technologies to keep technicians abreast of this ever-evolving industry. For the convenience of technicians and shop owners, seminars are typically conducted in the evening.
Video on Demand

Video on Demand allows technicians to review previously recorded content on the Learning Management System (LMS) at any time. VOD courses include monthly Service Know How Emerging Issues broadcasts from 2006 to current. This series of monthly broadcasts is designed to keep the service technicians up-to-date on current issues. During each 60-minute session, current GM service bulletins and warranty issues will be highlighted for technical awareness. Each session will feature a major service topic, supported by GM engineering and service experts. Regular segments include:

- Top Stories
- Featured Topic
- What’s Hot for Cars
- What’s Hot for Trucks
- Powertrain
- Back to Basics
- Fix it Right the First Time

Additionally, technicians are encouraged to ask questions and suggest topics via email.

TechTube Videos

ACDelco TechTube videos are short, vignette-style videos (typically 3-7 minutes) that are focused on specific technical procedures. These brief instructional videos offer a quick and convenient way to view various topics of instructional interest and value. Browse for videos today by accessing the training catalog on acdelcotraining.com.

TechTubes are also tablet and smart phone compatible!
Simulations or Diagnostic Exercises

ACDelco offers Simulation web-based courses that feature Diagnostic Exercises. These simulation-based courses are also compatible on tablet devices. They offer an interactive approach to follow customer concerns to completing the repair. While being coached, participants safely practice multiple procedures, in a virtual environment that acts as a knowledge bridge between traditional WBT and hands-on training.

InShops

InShops are one hour sessions in which an ACDelco professional brings training into your service bay. The training may be targeted to a specific repair issue or procedure for the technicians at that shop.
TECHAssist

TECHAssists are shorter versions of WBTs - typically 15-20 minutes. These courses provide technicians with content tailored to a specific task, procedure or common concern, and are designed to provide highly relevant information about current challenges technicians face.
A recommended path for completing the Alternative Propulsion curriculum is outlined below. To complete the training below and to search for and complete additional training, visit acdelcotraining.com.

### RECOMMENDED PATH

<table>
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<th>WBT</th>
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### SEM

| High Voltage System Technical Procedures | SAP0101SM |

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### ADDITIONAL TRAINING

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A0: ALTERNATIVE PROPULSION

Web-Based Training

HIGH VOLTAGE SYSTEM SAFETY SAP0101WB
This course will introduce participants to the high voltage systems safety used in GM vehicles. This course focuses on hybrid safety, preparation for a safe working environment, personal protective equipment, best practices, tools, disabling high voltage systems, internal battery service, and first responder guides. Upon completion of this course, participants will be able to identify the characteristics of a high voltage system, identify the steps for preparing a safe working environment, identify personal protective equipment functions, identify three best practices for working with high voltage systems, identify high voltage systems safety tools, describe the steps on how to disable high voltage systems safely, describe the steps for internal battery service, and describe how to use the first responder guides.
Languages: English/French

INTRODUCTION TO HYBRID AND ELECTRIC VEHICLES SAP0201WB
This course introduces the concept, design, and a brief history of hybrid and electric vehicle technology within General Motors. It also covers electrical energy storage, transfer, and general concepts that are commonly used in electric vehicles. In addition, this course discusses the characteristics of hybrid controls. Upon completion of this course, participants will be able to recall the background of the development of hybrid and electric vehicles, recall the characteristics of electrical energy, identify electrical energy storage, delivery, and transfer systems, and identify the characteristics of hybrid control.
Languages: English

HIGH VOLTAGE POWER ELECTRONICS FUNDAMENTALS SAP0301WB
This course covers the features and operation of hybrid and electric vehicles. This course reviews hybrid and electric power electronic components as well as the advanced technology systems.
Languages: English

HIGH VOLTAGE BATTERY SYSTEMS FUNDAMENTALS SAP0401WB
This course covers the features of the global hybrid and electric vehicle high voltage battery systems. It provides the fundamentals of high battery voltage construction, control modules, thermal management, contactors, manual disconnect features, chassis isolation, and safety features. Upon completing this course, participants will be able to recall the fundamentals of high voltage battery construction, recall the fundamentals of high voltage control and monitoring, and recall the fundamental safety features of high voltage batteries.
Languages: English

eASSIST INTRODUCTION: 115V (GEN 1) S-EL06-27.01WBT
This WBT course covers the characteristics of the eAssist system and the impact the system has on the drive cycle. This course also covers the components of the eAssist system, including the starter generator, liquid cooling system, accessory drive belt system, high voltage battery assembly, and supporting systems. Upon completion of this WBT technicians will be able to recall the characteristics of the eAssist system and identify the components of the eAssist system.
Languages: English/French

eASSIST INTRODUCTION 2: 86V (GEN 2) S-EL06-77.01WBT
This course introduces the eAssist system. Specific topics include the description and operation of the cooling systems, generator control module, high voltage monitoring system, and the starter generator. The course will also examine the hybrid modes of operation.
Languages: English

eASSIST INTRODUCTION 3: 2018 BUICK LACROSSE (GEN 3) S-EL06-85.01WBT
This course presents the eAssist system contained in the 2018 Buick LaCrosse. Specific topics include the eAssist features and supporting systems, the eAssist drive cycle, components and operation of the starter / generator, the power electronics cooling system, and characteristics of the drive belt.
Languages: English/French

eASSIST BATTERY STORAGE SYSTEMS:115V S-EL06-28.01WBT
This WBT course describes the eAssist battery storage system. Specific topics include the components, characteristics, and function of the generator control and battery module assembly, the generator battery assembly, the generator control module and the battery cooling system. Upon completion of this course technicians will be able to identify the eAssist generator control and battery module assembly components, describe the generator battery assembly components and characteristics, identify the generator control module characteristics and functions, and describe the battery cooling system components, characteristics and operation.
Languages: English/French
A0: ALTERNATIVE PROPULSION

**eASSIST BATTERY STORAGE SYSTEMS 2: 86V**

This course describes the eAssist battery storage system. Specific topics include the battery pack components and characteristics.

Languages: English

**eASSIST BATTERY STORAGE SYSTEMS 3: 2018 BUICK LACROSSE 86V**

This course covers the eAssist Battery Storage System 3. The content includes the eAssist components and operation of the drive motor battery assembly, and the operation of the thermal management system.

Languages: English/French

**TWO-MODE HYBRID INTRODUCTION AND SAFETY**

This WBT course will introduce technicians to the Two-mode Hybrid full size pick-ups and sport utility vehicles. The course also provides information on key safety features of the Two-mode vehicle and safety precautions that must be used when servicing, as well as a simulation of the high voltage battery disconnect procedure. Upon completion of this course technicians will be able to identify the different types of Two-mode Hybrid vehicles, identify the interior and exterior features specific to the Two-mode Hybrid vehicle, identify the unique Hybrid support systems utilized in Two-mode vehicles, and identify the correct procedure to disable the high voltage system and verify it is disabled. Note: While initial volume of these Two-Mode Hybrid products will be limited, all technicians should be aware of the high voltage safety issues.

Languages: English

**TWO-MODE HYBRID 300 VOLT BATTERY SYSTEM THEORY AND OPERATION**

This WBT course will introduce technicians to the Two-mode Hybrid full size pick-ups and sport utility vehicle 300 volt battery and battery system. The course also provides information on key safety features of the Two-mode vehicle and safety precautions that must be used when servicing the high voltage components, as well as a simulation of the high voltage battery disconnect procedure. Upon completion of this course technicians will be able to identify the components that make up the 300 volt battery, identify the components of the high voltage power electronics system, identify the safety practices required when working on the high voltage system, and identify the correct procedure to disable the high voltage system and verify it is disabled.

Languages: English

**TWO-MODE HYBRID 2ML70 TRANSMISSION THEORY AND OPERATION**

This WBT course will introduce technicians to Two-mode Hybrid full size pick-ups and sport utility vehicle Two-mode transmissions. The course provides information on key safety features of the Two-mode vehicle and safety precautions that must be used when servicing the high voltage components. Upon completion of this course technicians will be able to identify the safety procedures and practices required when working on the high voltage system, identify the components that make up the Two-mode transmission, and identify the modes of operation of the Two-mode transmission.

Languages: English

**TWO-MODE HYBRID SUPPORTING SYSTEMS THEORY AND OPERATION**

This WBT course will introduce technicians to Two-mode Hybrid full size pick-ups and sport utility vehicle supporting system components and operation. The course will provide information on key safety features of the Two-mode vehicle as well as safety precautions that must be used when servicing the high voltage components. Upon completion of this course technicians will be able to identify the Two-mode Engine components and operation, identify the components and operation of the Two-mode Power Electronics Cooling System, identify the components and operation of the Two-mode HVAC System, identify the components and operation of the Two-mode Electronic Power Steering System, and identify the Two-mode Braking System components and operation.

Languages: English

**TWO-MODE HYBRID SYSTEM DIAGNOSIS**

This WBT course will introduce technicians to the Hybrid LAN communication buss, the types of communication used and the diagnosis of the Hybrid LAN. This course will also identify the data list and special functions of the Tech 2 scan tool that are unique to this type of vehicle as well as discuss the use of this information to help properly diagnose the hybrid system. Also we will discuss normal Two-mode operating conditions that could be perceived as a concern. Upon completion of this course technicians will be able to identify the Hybrid Diagnostic Approach, identify the Hybrid LAN, diagnose the Hybrid LAN, identify the types of communication used by the hybrid system, identify the function of and rationale of torque-based strategy, recall the Tech 2 data lists and special functions for the Hybrid system, and identify Two-mode Hybrid vehicle design intent factors that customers may identify as concerns.

Languages: English
A0: ALTERNATIVE PROPULSION

HIGH VOLTAGE ENERGY STORAGE SYSTEM: CHEVROLET VOLT (GEN 1)  S-EL06-54.01WBT
This course covers the Chevrolet Volt high voltage energy storage system. It also covers drive motor battery characteristics; drive motor battery component characteristics, thermal management system characteristics and operation, and the characteristics and troubleshooting process for the integrated charger. Upon completion of this course technicians will be able to identify the characteristics and operation of the high voltage battery, identify the high voltage system disable and enable procedures, identify characteristics of the high voltage battery components, identify the characteristics and operation of the thermal management system, and identify the characteristics and troubleshooting process for the On-Board Charger Module (OBCM).
Languages: English/French

HIGH VOLTAGE ENERGY STORAGE SYSTEMS 2: CHEVROLET SPARK EV  S-EL06-61.01WBT
This WBT course covers the Battery Electric Vehicle (Spark EV) high voltage energy storage system. It covers characteristics and failure modes of the drive motor battery, as well as special tools required to diagnose and service the drive motor battery. This course also covers characteristics of the lithium ion battery modules and battery control systems, as well as operation of the contactors. Lastly, this course discusses the thermal management system, including its characteristics, components, and operation. Upon successful completion of this WBT course, technicians will be able to recall the characteristics and operation of the drive motor battery, recall characteristics, components, and operation of the drive motor battery components, and recall the characteristics, components, and operation of the thermal management system.
Languages: English

HIGH VOLTAGE ENERGY STORAGE SYSTEMS 3: 2015 CHEVROLET SPARK EV  S-EL06-70.01WBT
This WBT course provides a description of the specifications, components, configuration, connections, and function of the drive motor battery for the 2015 Spark EV (Electric Vehicle). The content of the course covers service procedures and cautions, as well as the associated parts of the drive motor battery system. Upon completion of this course, technicians will be able to identify the function and specifications of the drive motor battery, describe the components, configuration, and associated parts of the drive motor battery, and describe the service techniques and special tools associated with the drive motor battery.
Languages: English

HIGH VOLTAGE ENERGY STORAGE SYSTEMS 4: EREV (GEN 2)  S-EL06-74.01WBT
This WBT course covers the Generation 2 Extended Range Electric Vehicle (EREV) high voltage energy storage system. This content includes the drive motor battery characteristics; drive motor battery component characteristics, thermal management system characteristics, and operation. Upon completion of this course, technicians will be able to recall components and operational states of the drive motor battery assembly, recall the operation of the drive motor battery, recall the operation of the thermal management system, and recall how to diagnose and service the drive motor battery.
Languages: English

HIGH VOLTAGE ENERGY STORAGE SYSTEMS 6: 2017 CHEVROLET BOLT EV  S-EL06-81.01WBT
This course presents the high voltage energy storage systems in the latest battery electric vehicle from General Motors: the 2017 Bolt EV. The course covers characteristics and components of the lithium-ion drive motor battery, the associated thermal management system, and an overview of service procedures, including special tools.
Languages: English/French

HIGH VOLTAGE ENERGY STORAGE SYSTEM 7: 2017 CADILLAC CT6 PHEV  S-EL06-84.01WBT
This course presents the high voltage energy storage systems in the latest Plug-in Hybrid Electric Vehicle from General Motors: the 2017 Cadillac CT6 PHEV. The course covers characteristics and components of the lithium-ion drive motor battery, the associated thermal management system, and an overview of service procedures, including special tools.
Languages: English/French

ADVANCED TECHNOLOGY VEHICLE POWER ELECTRONICS  S-EL06-55.01WBT
This course covers power electronics found in advanced technology vehicles. It includes correct operation of the drive motor / generator power inverter module and accessory DC power module, as well as characteristics and correct operation of their thermal management systems. Upon completion of this course technicians will be able to identify the correct operation of the drive motor / generator power inverter module and thermal management system, and the correct operation of the accessory DC power module and thermal management system.
Languages: English
ADVANCED TECHNOLOGY VEHICLE TRANSMISSION: S-EL06-56.01WBT
CHEVROLET VOLT (GEN 1) 4ET50
This course covers the 4ET50 transmission including the transmission characteristics and modes of operation, mechanical and electrical system characteristics and the fluid flow and power flow for each mode of operation. A good understanding of automatic transmission principals and operation is recommended prior to taking this course. Upon completion of this course technicians will be able to identify the characteristics and modes of operation for the 4ET50 transmission, the mechanical and electrical system characteristics of the 4ET50 transmission, and the correct fluid flow and power flow for each operating mode of the 4ET50 transmission.
Languages: English

ADVANCED TECHNOLOGY VEHICLE TRANSMISSION 2: S-EL06-59.01WBT
CHEVROLET SPARK EV 1ET35
This WBT course covers the 1ET35 transmission characteristics, components, modes of operation, and service tips. The characteristics of the 1ET35 transmission include transmission cooling and fluid type. Mechanical and electrical components are also covered, as well as drive, reverse, and regenerative braking modes of operation. The service tips covered include fluid filling procedure highlights, and transmission disassembly highlights. The 1ET35 transmission is first used in the 2014 Chevrolet Spark EV; its use in the Spark EV is its first appearance for GM. Upon successful completion of this WBT course, technicians will be able to recall characteristics of the 1ET35 transmission, identify components and operation of the 1ET35 transmission, and recall service procedure tips for the 1ET35 transmission.
Languages: English

ADVANCED TECHNOLOGY VEHICLE TRANSMISSION 3: S-EL06-76.01WBT
CHEVROLET VOLT (GEN 2) 5ET50
This WBT course covers the 5ET50 transmission including the transmission characteristics and modes of operation, mechanical and electrical system characteristics, and the fluid flow and powerflow for each mode of operation. Upon completion of this course, technicians will be able to, recognize the characteristics and modes of operation for the 5ET50 transmission, recognize mechanical and electrical system characteristics of the 5ET50 transmission, and recognize the correct fluid flow and power flow for each operating mode of the 5ET50 transmission.
Languages: English/French

ADVANCED TECHNOLOGY VEHICLE TRANSMISSION 4: S-EL06-88.01WBT
CHEVROLET MALIBU HYBRID 5ET50
This course presents the characteristics of the 5ET50 transmission, which is part of the hybrid electric Chevrolet Malibu. Topics cover the transmission’s electrical and mechanical components, along with its modes of operation, including the hydraulic fluid flow and mechanical power flow for each mode.
Languages: English/French

ADVANCED TECHNOLOGY VEHICLE TRANSMISSION 5: S-EL06-89.01WBT
CHEVROLET BOLT 1ET25
This WBT course provides technical information on the 1ET25 transmission, which is a key component of the electric Chevrolet Bolt. Topics included are the transmission’s electrical and mechanical components, modes of operation, electronic transmission range select, and service tips. Upon completion of this course, technicians will be able to identify characteristics and mechanical components specific to the 1ET25 transmission, identify electrical components of the 1ET25 transmission, identify the transmission cooling methods, fluid type and capacity related to the 1ET25 transmission, identify modes of operation performed by the 1ET25 transmission, and identify service tips related to the 1ET25 transmission.
Languages: English/French

ADVANCED TECHNOLOGY VEHICLE TRANSMISSION 6: S-EL06-83.01WBT
4EL70
This course covers the features and operation of the 4EL70 transmission. Those features include transmission specifications, components and their operation, drive modes, diagnostics, and towing methods.
Languages: English/French

ADVANCED TECHNOLOGY VEHICLE SUPPORTING SYSTEMS S-EL06-57.01WBT
This course covers the unique characteristics of the 1.4L engine, the fuel and evaporative emissions control systems including the refuel request switch, and the braking system including regenerative braking capabilities and modes of operation. It also covers the unique characteristics of the heating, ventilation, and air conditioning system, including the high voltage heater, electric air conditioning compressor and drive motor battery coolant cooler. Upon completion of this course technicians will be able to identify the unique characteristics and operation of the 1.4L engine, fuel and evaporative emissions control systems, braking system, and heating, ventilation, and air conditioning system.
Languages: English
INTRODUCTION TO HYBRID AND ELECTRIC VEHICLES  

This course introduces the concept, design, and a brief history of hybrid and electric vehicle technology within General Motors. It also discusses electrical energy storage, transfer, and general concepts commonly used. Lastly, this course discusses the characteristics of hybrid controls. Upon completion of this course, participants will be able to recall the history and design of Hybrid and electric vehicles, recall the characteristics of electrical energy, identify electrical storage, delivery, and transfer, and identify the characteristics of Hybrid control.

Languages: English

BATTERY ELECTRIC VEHICLE INTRODUCTION: CHEVROLET SPARK EV  

This WBT course provides an introduction to the Battery Electric Vehicle (BEV). It covers key features, characteristics and components of high voltage vehicle systems and supporting systems. High voltage vehicle systems covered include the propulsion system, thermal management system, and the charging system. Supporting systems covered include the climate control system, electrical and vehicle communication systems, braking system, and the steering system. This course also discusses modes of operation as well as safe work practices, the diagnostic process, and the high voltage disabling procedure. Upon successful completion of this WBT course, technicians will be able to recall the key characteristics and features of the Battery Electric Vehicle, identify characteristics and components of the Battery Electric Vehicle high voltage systems, identify characteristics and components of the Battery Electric Vehicle supporting systems, recall characteristics of Battery Electric Vehicle operation, and recall Battery Electric Vehicle service procedures.

Languages: English

BATTERY ELECTRIC VEHICLE INTRODUCTION 2: CHEVROLET BOLT EV  

This course provides an introduction to the 2017 Bolt EV battery electric vehicle. It covers key features, characteristics, and components of high voltage vehicle systems and supporting systems. The high voltage vehicle systems covered include the propulsion system, thermal management system, and charging system. Supporting systems covered include the climate control system and the braking system. This course also discusses modes of operation and safe work practices.

Languages: English/French

HYBRID BRAKE SYSTEMS OVERVIEW  

This course provides information regarding the characteristics and operation of the hybrid braking and apply system. Information about servicing hybrid braking hydraulic systems is also included. Upon completion of this course you will be able to recall the function of hybrid electric vehicle (HEV) brake systems and how to service a hybrid electric vehicle (HEV) braking hydraulic system using a bleed procedure.

Languages: English

EREV INTRODUCTION AND SAFETY: CHEVROLET VOLT (GEN 2) AND CADILLAC ELR  

This course introduces technicians to the Extended Range Electric Vehicle (EREV) and covers key features, components, modes of operation, and characteristics of the electrical and charging systems. It also covers vehicle communication and High Voltage Interlock Circuit (HVIC) systems, as well as the diagnostic process and safety precautions. Upon completion of this course, technicians will be able to identify the key features of the EREV vehicle, identify the components and modes of operation, identify the characteristics of the electrical system and the types and characteristics of the vehicle communication system, identify the characteristics of the charging system, identify the characteristics of the High Voltage Interlock Circuit (HVIC), and identify the diagnostic process and safety precautions.

Languages: English

EREV INTRODUCTION AND SAFETY 2: CHEVROLET VOLT (GEN 2) AND CADILLAC ELR  

This WBT course covers the Gen 2 Chevrolet Volt and Cadillac ELR Extended Range Electric Vehicle (EREV) high voltage system components, description and operation. Upon completion of this course, technicians will be able to identify features of the Gen 2 EREV / 2016 Chevrolet Volt, describe the components and modes of operation, describe the electrical and communication systems, identify characteristics of the charging system, identify characteristics of the fuel system, and identify characteristics of the braking system.

Languages: English

12V STOP / START SYSTEM: OVERVIEW, COMPONENTS AND OPERATION  

This course presents an overview of the 12V Stop / Start System, including the three different types, how they operate, features, and components. Topics include information about the benefits and the supporting automatic transmission fluid systems. Participants will acquire a sound understanding of how the 12V Stop / Start System works, enabling them to service vehicles equipped with this system more effectively.

Languages: English
A0: ALTERNATIVE PROPULSION

PLUG-IN HYBRID ELECTRIC VEHICLE INTRODUCTION S-EL06-82.01WBT
This course provides an introduction to the 2017 Cadillac CT6 plug-in hybrid electric vehicle. It covers key features, characteristics, and components of high voltage vehicle systems and supporting systems. The high voltage vehicle systems covered include the propulsion system, thermal management system, and charging system. Supporting systems covered include the climate control system and the braking system. This course also discusses modes of operation and safe work practices.
Languages: English/French

COMPRESSED NATURAL GAS (CNG) FUEL SYSTEMS S-EP08-23.01WBT
The WBT component provides knowledge of regulations, component function and operation, vehicles, diagnosis, service, and maintenance procedures for Compressed Natural Gas (CNG) fuel systems. Upon completion of this WBT component technicians will be able to recall laws, regulations, characteristics, and safety procedures for compressed natural gas fuel systems, describe the compressed natural gas system components and operation, identify compressed natural gas vehicles, engines and diagnostic procedures, and recall compressed natural gas inspection and maintenance procedures.
Languages: English

LIQUEFIED PETROLEUM GAS (LPG) FUEL SYSTEMS S-EP08-28.01WBT
This WBT course provides information on regulations, component function and operation, vehicles, diagnosis, service and maintenance procedures for Liquid Propane Gas (LPG) fuel systems. Upon completion of this WBT course, technicians will be able to recall laws, regulations characteristics, and safety procedures for LPG fuel systems, describe the liquid propane gas components and operation, identify liquid propane gas vehicles, engine, and diagnostic procedures, and recall liquid propane gas inspection and maintenance procedures.
Languages: English

BI-FUEL SYSTEM OPERATION S-EP08-29.01WBT
General Motors bi-fuel systems use a combination of Compressed Natural Gas (CNG) fuel and traditional gasoline systems. This course covers the process of how the bi-fuel system operates and performs in comparison to a traditional gasoline vehicle. It also identifies components involved in bi-fuel system operation and bi-fuel supply operations. Bi-fuel diagnostic scenarios for no start and improper CNG operation will be discussed. In addition to diagnostics, the bi-fuel inspection and maintenance process including leak checking and tank removal safety will be presented. Vehicle storage will also be covered. Upon completion of this course, participants will be able to describe the bi-fuel system components and operation, describe bi-fuel system diagnostic procedures, and recall bi-fuel system inspection and maintenance procedures.
Languages: English

Seminars

HYBRID VEHICLE MAINTENANCE PROCEDURES SAP0101SM
This course 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.
Languages: English
A recommended path for completing the Engine Mechanical curriculum is outlined below. To complete the training below and to search for and complete additional training, visit acdelcotraining.com.

### RECOMMENDED PATH

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### ADDITIONAL TRAINING

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ENGINE FUNDAMENTALS

This WBT course will provide a familiarity of the current major types of automotive engines, their components, and basic engine operation, including an identification of the major types of engines, a breakdown of major engine components, a description of basic engine terminology, and an overview of the engine operating sequence. Upon completion of this course, technicians will be able to identify engine types, engine components, basic engine terminology, and basic engine operation.

Languages: English

DIAGNOSIS

This course covers the diagnostic process for lower and upper 3.6L LGX V6 engine concerns, including engine noises, misfire, oil pressure concerns, and external component noises. This course is intended for service technicians and covers the theory of 3.6L LGX engine diagnosis. Topics include proven diagnostic procedures, test equipment, and methods. Upon completion of this course, the participants will be able to recall how to diagnose lower engine noise, recall how to diagnose upper engine noise, recall how to diagnose engine misfire, and identify oil pressure concerns.

Languages: English

DISASSEMBLY

This course is intended for service technicians and covers the principles and procedures of 3.6L LGX engine disassembly. This course covers the disassembly process for the upper and lower sections of the 3.6L LGX V6 engine. First, it will cover the disassembly of the upper section of the 3.6L LGX V6 engine, and then the disassembly of the lower section. Related content in this course includes proven diagnostic procedures, test equipment, and methods of disassembly. Upon completion of this course, the participants will be able to recall pre-disassembly procedures, recall how to disassemble the overhead cam and camshaft, and recall how to disassemble the engine block.

Languages: English

INSPECTION 1

This course is intended for service technicians and covers the principles and procedures of the 3.6L LGX engine post-disassembly inspection. It covers the inspection process for the upper and lower sections of the 3.6L LGX V6 engine. Related content in this course includes proven inspection procedures, test equipment, and methods of measurement. Upon completion of this course, the participants will be able to summarize how to inspect the disassembled 3.6L LGX engine, recall how to clean, inspect and measure the engine block and crankshaft, recall how to disassemble, clean and inspect piston and rod assemblies, and recall how to clean and inspect the flexplate and balancer.

Languages: English

INSPECTION 2

This course covers various engine procedures, including engine timing, removal and replacement of oil pump balance shafts, direct injector removal and replacement, turbocharger removal and replacement, camshaft removal and replacement, and other maintenance procedures. The engines included in this course are the LGX, LGE, and SGE gasoline engines and the L5P, LWN, LUZ, and LH7 diesel engines. This WBT also presents additional specifications, service and maintenance procedures, and unique features for these gasoline and diesel engines.

Languages: English

ASSEMBLY 1

This course is intended for service technicians and covers the principles and procedures of starting 3.6L LGX engine assembly. It covers the first parts of the assembly process, concentrating on the upper components of the 3.6L LGX V6 engine including the installation of the crankshaft, piston and rod, rear main seal, oil pump and pan, and cylinder head. Related content in this course includes proven inspection procedures, test equipment, and methods of measurement. Upon completion of this course, the participants will be able to describe how to assemble the upper components of the disassembled 3.6L LGX engine, recall how to reassemble the block and install the crankshaft, recall how to reassemble piston and rod assemblies, measure rod clearance and crankshaft bearings and assemble and tighten connecting rods and bearings, recall the steps of the alternate clearance procedure, recall how to install the rear main seal, recall how to install the oil pump and pan, and recall how to install and torque the cylinder heads.

Languages: English
A1: ENGINE MECHANICAL

GAS / DIESEL ENGINE MECHANICAL DIAGNOSIS AND MEASUREMENT 6: SEM0601WB

PROCEDURES
This course is intended for service technicians and covers the second half of the principles and procedures used during 3.6L LGX engine reassembly. It covers specific parts of the engine assembly process, concentrating on the upper components of the 3.6L LGX V6 engine including the installation of the camshaft actuator, timing chain guide and tensioner, oil pump, camshaft sprockets, fuel pump, high pressure fuel rail crossover pipe, front cover, oil pan, water pump, camshaft cover, engine coolant thermostat housing, water outlet, intake manifold, and crankshaft balancer. Related content in this course includes proven inspection procedures, test equipment, and methods of measurement. Upon completion of this course, the participants will be able to recall the order of the steps taken to re-assemble the left side of the 3.6L LGX engine, recall the order of the steps taken to re-assemble the right side of the 3.6L LGX engine, recall the order of the steps taken for re-installation of 3.6L LGX engine components including: the oil pump, the crankshaft assembly, fuel pump, the high pressure fuel rail crossover pipe, the engine front cover, oil pan, water pump, camshaft cover, engine coolant thermostat housing, water outlet, intake manifold, and the crankshaft balancer.
Languages: English

Instructor-Led Training

VALVETRAIN CONTROLS S-EM01-01.01ILT
This ILT course will cover valvetrain timing and control systems. Modern engines employ valve timing and lift adjustment strategies to improve fuel economy, power and emissions. Topics include function and operation of variable valve timing, valve lift and cylinder deactivation systems. Also discussed are diagnosis and repair techniques, including servicing chains and toothed belts, a review of basic engine mechanical testing and how these tests are affected by valvetrain control strategies.
Languages: English

InShop Training

ADVANCED VARIABLE VALVE TIMING S-EM01-01.01SEM
This 1-hour InShop is intended for engine mechanical and engine performance technicians. The seminar will familiarize technicians with some of the latest engine technologies found on today’s vehicles. Some of the topics include: Variable Valve Timing (VVT), Spline Phaser system, Vane Phaser Overhead Cam (OHC) system, and Vane Phaser Overhead Cam (OHC) magnetically controlled system. This seminar will cover operation and unique service procedures related to each system.
Languages: English

CAMSHAFT VARIABLE VALVE LIFT SYSTEMS AND ACTIVE FUEL MANAGEMENT S-EM01-02.01SEM
This 1-hour InShop is intended for engine mechanical and engine performance technicians. The seminar will familiarize technicians with some of the latest engine technologies found on today’s vehicles. Topics include camshaft variable valve lift systems and Active Fuel Management (AFM). The seminar will cover operation and unique service procedures related to each system.
Languages: English

HOMOGENOUS CHARGE COMPRESSION IGNITION S-EM01-04.01SEM
This 1-hour InShop is intended for engine mechanical and engine performance technicians. The seminar will familiarize technicians with some of the latest engine technologies found on today’s vehicles. A future GM system referred to as Homogenous Charger Compression Ignition (HCCI) will be covered, as well as 2.2 Ecotec engines and the highlights and benefits of HCCI.
Languages: English

SPARK IGNITION DIRECT INJECTION S-EM01-03.01SEM
This 1-hour InShop is intended for engine mechanical and engine performance technicians. The seminar will familiarize technicians with some of the latest engine technologies found on today’s vehicles. Some of the topics include: Variable Valve Timing (VVT), Spline Phaser system, Vane Phaser Overhead Cam (OHC) system, and Vane Phaser Overhead Cam (OHC) magnetically controlled system. This seminar will cover operation and unique service procedures related to each system.
Languages: English
TechTube Videos

**WATER PUMP SERVICE**
S-EM01-01.01VID
This service video will share some information on things to look for when replacing a water pump and servicing the coolant system to reduce repeat pump failures.
Languages: English

**4.3 BALANCE SHAFT TIMING CHAIN REPLACEMENT (GEN V)**
S-EM01-01.02VID
This video demonstrates how to replace the balancer shaft timing chain on a Gen V 4.3L engine.
Languages: English

**CYLINDER LEAK DOWN TEST**
S-EM01-01.03VID
This video demonstrates how to perform a cylinder leak down test to gauge the health of an engine, using a diagnostic scenario.
Languages: English

**STATIC COMPRESSION TEST**
S-EM01-01.04VID
This video demonstrates how to perform a static compression test and how the readings can help diagnose a base engine problem.
Languages: English

**RUNNING COMPRESSION TEST**
S-EM01-01.05VID
This video demonstrates how to perform a running compression test and how the readings can help diagnose a base engine problem.
Languages: English

**ACTIVE FUEL MANAGEMENT LIFTERS**
S-EM01-01.06VID
This video describes General Motors Active Fuel Management (AFM) system operation, diagnosis and inspection of AFM lifters and proper replacement procedures.
Languages: English

**ENGINE MOUNTS**
S-EM01-01.07VID
This video demonstrates inspection and diagnosis of engine mounts for front wheel drive and rear wheel drive vehicles.
Languages: English
A recommended path for completing the Automatic Transmission curriculum is outlined below. To complete the training below and to search for and complete additional training, visit acdelcotraining.com.

## RECOMMENDED PATH

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<th>WBT</th>
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<td>Automatic Transmission Characterization Programming</td>
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<td>Automatic Transmission 1: Hydraulic and Mechanical Principles</td>
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<td>Automatic Transmission 2: Valve Body components and Electrical Inputs and Outputs</td>
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<td>Automatic Transmission 3: Powerflow, Modes of Operation, Diagnosis and Service Procedures</td>
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<tr>
<td>10-Speed Automatic Transmission Overview</td>
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<td>8-Speed Automatic Transmission Overview</td>
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<td>Auto Trans Electronic Control System</td>
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## ADDITIONAL TRAINING

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S-AT0201WB
S-AT02-06.01SEM
S-AT02-06.01WBT
S-AT02-07.01WBT
S-AT02-08.01WBT
S-AT0301WB
S-AT02-13.01WBT
S-AT02-12.01WBT
S-AT02-01.01VID
S-AT02-02.01VID
Web-Based Training

**AUTOMATIC TRANSMISSION INSPECTION AND MAINTENANCE**

This course covers how to perform visual inspections of the automatic transmission system. The course also covers service procedures for removing and replacing the external speed sensor seal and adjusting the transmission fluid level.

*Languages: English*

**AUTOMATIC TRANSMISSION CHARACTERIZATION PROGRAMMING**

This course describes the purpose and process to successfully complete the Solenoid Valve Characterization Reprogramming Procedure required for all new eight, nine and ten speed automatic transmissions. This course will direct you on the proper programming required to store the information in the Transmission Control Module. When specific transmission components have been replaced during service, the characterization data must be retrieved from a database and reprogrammed into the Transmission Control Module. Upon completing this course, participants will be able to identify the purpose and importance of characterization programming, identify important elements within the Solenoid Valve Characterization Programming, and identify the process and steps involved to successfully perform the Solenoid Valve Characterization Programming.

*Languages: English*

**10-SPEED AUTOMATIC TRANSMISSION OVERVIEW**

This course presents an overview of the new 10L90 10-speed automatic transmission, the newest rear wheel drive transmission developed by General Motors. This course provides technicians with an overview of the mechanical, hydraulic, and electrical components necessary for its proper operation. Technicians will review the different clutches and gear sets used to achieve the forward and reverse gears. Fluid and filters are discussed to ensure proper operation and servicing. Finally, the programming is reviewed to ensure a quality repair.

*Languages: English*

**AUTOMATIC TRANSMISSION 1: HYDRAULIC AND MECHANICAL PRINCIPLES**

Part one of this three-part WBT covers automatic transmissions principles, hydraulics, torque converter characteristics, and mechanical system fundamentals. Upon completion of this course, technicians will be able to recall principals of automatic transmissions, recall principals of hydraulics, identify fundamentals of the torque converter, identify fundamentals of the mechanical system, and identify characteristics of the one way clutch and the final drive.

*Languages: English/Spanish/French*

**AUTOMATIC TRANSMISSION 2: VALVE BODY COMPONENTS AND ELECTRICAL INPUTS AND OUTPUTS**

Part two of this three-part WBT covers the hydraulic system characteristics, valve body components and types, electrical system inputs and outputs of automatic transmission systems. Upon completion of this course, technicians will be able to recall the hydraulic system characteristics of an automatic transmission, identify characteristics of the valve body, identify the electrical system inputs in an automatic transmission, and identify the electrical system outputs in an automatic transmission.

*Languages: English/Spanish/French*

**AUTOMATIC TRANSMISSION 3: POWERFLOW, MODES OF OPERATION, DIAGNOSIS AND SERVICE PROCEDURES**

Part three of this three-part WBT covers the automatic transmission control system powerflow and modes of operation. This course also covers the steps of the diagnostic process, and the diagnostic and service procedures for automatic transmissions. Upon completion of this course, technicians will be able to recall automatic transmission control system power flow and modes of operation, identify the steps of the automatic transmission diagnostic process, recall automatic transmission diagnostic procedures, and describe how to perform automatic transmission service procedures.

*Languages: English/Spanish/French*

**AUTO TRANS ELECTRONIC CONTROL SYSTEM**

This WBT course provides an overview of Electronic Automatic Transmission Control. The content covers the transmission control system components and operation. Participants will understand how the sensors, actuators and control strategies function, enabling them to diagnose and service electronically controlled automatic transmissions more effectively. Upon completion of this course, technicians will be able to recall electronic transmission control system characteristics, recall electronic transmission control system operation, recall transmission range sensor operation, and recall pressure control solenoid operation.

*Languages: English*
A2: AUTOMATIC TRANSMISSION

8-SPEED AUTOMATIC TRANSMISSION OVERVIEW
This WBT course presents an overview of the 8-speed automatic transmission known as the 8L90. Topics cover the 8L90's features, components, power flow and programming requirements, as well as the start-stop system. Upon completion of this course, technicians will be able to identify features of the 8L90, identify components of the 8L90, identify the power flow through the hard components for each gear of the 8L90, recall the requirements for programming the 8L90, and describe the start-stop system.
Languages: English

Seminars

TEHCM PROGRAMMING
This three-hour seminar will introduce the TEHCM and its related components, while highlighting related diagnostic and service procedures including TEHCM removal and reinstallation. This seminar will illustrate the procedures for correctly programming the TEHCM and relearning transmission adaptive strategies. A programming demonstration is also included in this seminar.
Languages: English

TechTube Videos

6 SPEED TRANSMISSION FLUID LEVEL CHECKING
This video demonstrates how to properly check and adjust fluid levels on the GM 6T70/75, 6T40 and 6L80 automatic transmissions.
Languages: English

TRANS IMS TESTING
This video demonstrates how to test the trans Internal Mode Switch (IMS) on GM’s 6L80/6L90 automatic transmissions.
Languages: English
A recommended path for completing the Manual Transmission / Driveline curriculum is outlined below. To complete the training below and to search for and complete additional training, visit acdelcotraining.com.

### RECOMMENDED PATH

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<td>Front-Wheel Drive (FWD) / Rear-Wheel Drive (RWD) Operation, Diagnosis and Service 1: FWD Operation</td>
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<td>Propshaft and Rear Axle Operation, Diagnosis, and Service 2: Diagnosis</td>
<td>Propshaft and Rear Axle Operation, Diagnosis, and Service 1: Fundamentals and Characteristics</td>
<td>Truck AWD/4WD Operation, Diagnosis &amp; Service 2: Diagnosis</td>
<td>Truck AWD/4WD Operation, Diagnosis &amp; Service 1: Operation</td>
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## ADDITIONAL TRAINING

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<th>Front Axle Actuator Diagnosis</th>
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<th>Transfer Case</th>
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Self Study Training

MANUAL TRANSMISSION CLUTCH SELF STUDY TRAINING SFN1601SF
An explanation of popular automotive clutch systems. Includes clutch discs, pressure plates, mechanical and hydraulic release systems, flywheels and pilot bearings.
Languages: English

Web-Based Training

FRONT-WHEEL DRIVE (FWD) / REAR-WHEEL DRIVE (RWD) S-MT03-03.01WBT
OPERATION, DIAGNOSIS AND SERVICE 1: FWD OPERATION
Part one of this four-part WBT course covers manual drivetrain / axle types, where to locate manual drivetrain / axle resources, and how to service a manual drivetrain / axle using safe practices. This course also covers front wheel drive (FWD) characteristics, FWD transmission clutch types and steps of operations, manual transmission characteristics, including the mechanical components, the shift mechanism, and the steps of operation. The course further covers manual transmission steps of operation, manual transmission electronic control system characteristics, and front wheel drive half shaft assembly types and steps of operation. Upon completion of this course, technicians will be able to, identify manual driveline fundamentals, identify FWD manual transmission fundamentals, recall FWD transmission clutch types and operation, recall FWD manual transmission mechanical system characteristics and operation, recall FWD manual transmission operation, identify FWD manual transmission electronic control system characteristics, and recall FWD half shaft assembly fundamentals.
Languages: English/Spanish/French

FRONT-WHEEL DRIVE (FWD) / REAR-WHEEL DRIVE (RWD) S-MT03-04.01WBT
OPERATION, DIAGNOSIS AND SERVICE 2: FWD DIAGNOSIS
Part two of this four-part WBT course covers diagnostics of a Front-Wheel Drive (FWD) manual transmission clutch, manual transmission, and an axle shaft. This course also covers how to diagnose a FWD manual transmission, clutch, and axle shaft using visual and operational inspections, symptom-based diagnostics, and Diagnostic Trouble Code (DTC)-based diagnostics. Upon completion of this course, technicians will be able to, describe FWD manual transmission clutch diagnostics, recall FWD manual transmission diagnostics, recall FWD manual transmission symptom-based diagnostics, and identify FWD axle shaft diagnostics.
Languages: English/Spanish/French

FRONT-WHEEL DRIVE (FWD) / REAR-WHEEL DRIVE (RWD) S-MT03-05.01WBT
OPERATION, DIAGNOSIS AND SERVICE 3: RWD OPERATION
Part three of this four-part WBT course covers Rear-Wheel Drive (RWD) characteristics and manual transmission clutch types. This course also covers Tremec® 6-speed manual transmission characteristics, fluid characteristics, and mechanical component characteristics. This course also covers Tremec® 6-speed manual transmission shift mechanism types, and direct mounted and remote mounted operation. The course further covers Tremec® 6-speed manual transmission operation, electronic control system characteristics and modes of operation. Upon completion of this course, technicians will be able to, identify Rear-Wheel Drive (RWD) fundamentals, identify manual transmission fundamentals of a Tremec® 6-speed transmission, recall operational steps of a Tremec® 6-speed manual transmission, and identify characteristics and the operation of the manual Tremec® 6-speed transmission electronic control system.
Languages: English/Spanish/French

FRONT-WHEEL DRIVE (FWD) / REAR-WHEEL DRIVE (RWD) S-MT03-06.01WBT
OPERATION, DIAGNOSIS AND SERVICE 4: RWD DIAGNOSIS
Part four of this four-part WBT course covers how to troubleshoot Rear-Wheel Drive (RWD) manual transmissions using a systematic strategy-based diagnosis process. This course also covers how to diagnose rear-wheel drive manual transmissions using a preliminary inspection, an operational test, preliminary symptom-based diagnostics, and preliminary diagnostic trouble code-based diagnostics. Further, this course covers how to diagnose rear-wheel drive manual transmissions using electronic and electrical tools. Upon completion of this course, technicians will be able to recall how to diagnose rear-wheel drive manual transmissions.
Languages: English/Spanish/French

PASSENGER CAR AWD SMT0101WB
This course provides an overview to service technicians on the newest selectable All-Wheel Drive (AWD) systems for Front-Wheel Drive (FWD) vehicles. This course covers the single and twin clutch AWD systems with the selectable power transfer unit, as well as an overview of the system, its components, and operation.
Languages: English/Spanish/French
A3: MANUAL TRANSMISSION / DRIVELINE

TRUCK AWD / 4WD OPERATION, DIAGNOSIS & SERVICE 1: OPERATION  
S-MT03-09.01WBT
Part one of this two-part WBT course identifies 4WD / AWD drivetrain types and transfer cases. The course also covers truck 4WD / AWD clutch, viscous and differential operation. In addition, the course also identifies 4WD / AWD electrical and mechanical modes of operation. Upon completion of this course, technicians will be able to identify 4WD / AWD drivetrain types, identify 4WD / AWD transfer case types, recall truck 4WD / AWD clutch transfer case mechanical operation, recall truck 4WD / AWD viscous transfer case mechanical operation, recall truck 4WD / AWD differential transfer case mechanical operation, identify 4WD electrical modes of operation, and identify AWD electrical modes of operation.
Languages: English/Spanish/French

TRUCK AWD / 4WD OPERATION, DIAGNOSIS & SERVICE 2: DIAGNOSIS  
S-MT03-10.01WBT
Part two of this two-part WBT course covers Four-Wheel Drive (4WD) / All-Wheel Drive (AWD) diagnostics for trucks, and truck transfer cases. Topics covered in this course include troubleshooting 4WD / AWD trucks and transfer cases using a systematic, strategy-based diagnostics process. This course also covers diagnosing 4WD / AWD trucks and transfer cases using preliminary symptom-based and Diagnostic Trouble Code (DTC)-based diagnostics, operational tests, and electronic / electrical tools. This course further covers the steps for diagnosing a 4WD truck transfer case, specifically the MP 3023/3024-NQH transfer case, using a visual inspection of the external and internal components. Upon completion of this course, technicians will be able to recall a systematic approach to 4WD / AWD transfer case diagnostics, recall how to diagnose 4WD / AWD truck transfer cases using symptom-based diagnostics, and identify the steps to follow when diagnosing 4WD truck transfer case, MP 3023 / 3024 NQH.
Languages: English/Spanish/French

PROPSHAFT AND REAR AXLE OPERATION, DIAGNOSIS, AND SERVICE 1: FUNDAMENTALS AND CHARACTERISTICS  
S-MT03-11.01WBT
Part one of this four-part WBT course covers propshaft and rear drive axle fundamentals, and semi- and full-floating rear drive axle characteristics, mechanical systems, and diagnostics. Upon completion of this course, technicians will be able to identify propshaft and rear drive axle fundamentals and characteristics, recall semi- and full-floating rear drive axle mechanical systems, and recall semi- and full-floating rear drive axle diagnostics.
Languages: English/Spanish

PROPSHAFT AND REAR AXLE OPERATION, DIAGNOSIS, AND SERVICE 2: DIAGNOSIS  
S-MT03-12.01WBT
Part two of this four-part WBT course covers propshaft characteristics and types, how to diagnose a semi- and full-floating rear drive axle with the symptom-based and operational tests and a visual inspection. The course also covers how to diagnose a rear drive axle, the rear drive axle differentials, and the 8.6 inch rear drive module. Upon completion of this course, technicians will be able to identify the propshaft characteristics and types, recall how to diagnose a semi- and full-floating rear drive axle with the symptom-based and operational tests and the visual inspection, and recall how to diagnose a rear drive axle, the rear drive axle differential, and the 8.6 inch rear drive module.
Languages: English/Spanish

PROPSHAFT AND REAR AXLE OPERATION, DIAGNOSIS, AND SERVICE 3: ELECTRIC CLUTCH, ELECTRO-HYDRAULIC OPERATION AND DIAGNOSIS  
S-MT03-17.01WBT
Part three of this four-part WBT course covers the operation, diagnosis and service of several types of clutch systems for all-wheel drive and rear-wheel drive vehicles. Topics include the all-wheel drive electric clutch: its operation, diagnosis via a functional test, and service of this system’s components; the all-wheel drive electro-hydraulic clutch: its operation, diagnosis via fault codes and GDS controls, and service of this system’s components; the rear-wheel drive direct connect module: its operation, diagnosis via fault codes and GDS controls, and service of its components. Upon completion of this course, technicians will be able to identify the propshaft characteristics and types, recall how to diagnose a semi and full-floating, rear drive axle with the symptom based, the operational test, and the visual inspection, and recall how to diagnose a rear drive axle, the rear drive axle differential, and the 8.6 inch rear drive module.
Languages: English
PROPShaFT AND REAR AXLE OPERATION, DIAGNOSIS AND SERVICE 4:  S-MT03-18.01WBT

ELECTRIC LOCKING AXLES

Part four of this four-part WBT course covers operation and components, including modes of operation and the integrated chassis control module, and diagnosis and service of the electronic locking rear axle and front axle. In addition, this course covers operation of the rear axle and front axle, and different types of sensors. It also describes the locking differential indicator, and identifies diagnostic trouble codes. Upon completion of this course, technicians will be able to recall electronic locking differentials operation components, identify controls for locking differentials, identify modes of operation and the integrated chassis control module, recall operation of the rear axle and front axle, identify different types of sensors, recall the locking differential indicator, and identify diagnostic trouble codes.

Languages: English

DRIVETRAIN INSPECTION AND MAINTENANCE S-MT03-13.01WBT

This course covers the characteristics and inspection procedures for the manual transmission clutch, manual transmission fluid, and transfer case. This course also covers the types and service procedures for drivetrain axles.

Languages: English

INTRODUCTION TO DRIVETRAIN S-MT03-14.01WBT

This WBT course describes the types and characteristics of drive trains and their associated gears and the characteristics of rear-wheel drive. Upon completion of this course, technicians will be able to recall types of drive trains and their associated components and gears and recall the characteristics and theory of propeller shafts and U-joints used on rear-wheel drive type drive trains.

Languages: English/French

MANUAL TRANSMISSION 1: OPERATION S-MT03-15.01WBT

This WBT course describes the components and operation of manual transmissions and transaxles. Topics covered include drive trains, synchronizers, speed gears, shift mechanisms, clutches, and transmission power flow. Upon completion of this course, technicians will be able to recall the common transmission / transaxle gear types and synchronizer operation, recall the purpose of the shift mechanism and clutch assembly components, and recall the power flow through the gears of a manual transmission / transaxle.

Languages: English/French

MANUAL TRANSMISSION 2: DIAGNOSIS S-MT03-16.01WBT

This WBT course covers general inspection, diagnostic and repair practices for common rear wheel drive manual transmissions. Topics include systematic diagnostics, external visual inspections, operational testing, removal and installation, disassembly and assembly, and cleaning. Visual inspection of internal transmission components, such as bearings, gears, synchronizers, shafts and case housings, is also covered. Upon completion of this course, technicians will be able to recall how to troubleshoot a longitudinal manual transmission using a systematic procedure, recall how to perform a visual inspection to troubleshoot and diagnose a longitudinal manual transmission, and recall how to service a longitudinal manual transmission.

Languages: English

Instructor-Led Training

ALL-WHEEL DRIVE / FOUR WHEEL DRIVE S-MT03-01.01ILT

This Instructor-led Training (ILT) course will provide technicians the opportunity to learn about the various four wheel drive (4WD) and all-wheel drive (AWD) systems, how power is divided in these systems, components of four wheel drive (4WD) and all-wheel drive (AWD) systems, and some diagnostics of four wheel drive (4WD) and all-wheel drive (AWD) systems. The course will also include real world scenarios based on vehicles from several manufactures, and vehicle exercises to explore and apply diagnostic processes to some common symptoms.

Languages: English
Half Day Training

FOUR WHEEL DRIVE  
This Half Day Training (HDT) session will provide technicians the opportunity to learn about the various four wheel systems, how power is divided in these systems, components of four wheel systems, and some diagnostics of four wheel (4WD) systems. The course will also include real world scenarios based on vehicles from several manufacturers, and vehicle exercises to explore and apply diagnostic processes to some common symptoms.

Languages: English

ALL-WHEEL DRIVE  
This Half Day Training (HDT) session will provide technicians the opportunity to learn about the various all-wheel drive systems, how power is divided in these systems, components of all-wheel drive systems, and some diagnostics of all-wheel drive (AWD) systems. The course will also include real world scenarios based on vehicles from several manufacturers, and vehicle exercises to explore and apply diagnostic processes to some common symptoms.

Languages: English

TechTube Videos

PROPER WAY TO CHECK RING GEAR BACKLASH  
This video demonstrates how to measure backlash of a ring and pinion gearset and what the measurements mean.

Languages: English

TRANSFER CASE  
This video describes issues that can affect 4WD operation that you should be aware of before replacing a transfer case.

Languages: English

FRONT AXLE ACTUATOR DIAGNOSIS  
This video shows how to verify if a front axle actuator is operating using a scan tool and how the actuator connects the front axles together.

Languages: English
A recommended path for completing the Suspension and Steering curriculum is outlined below. To complete the training below and to search for and complete additional training, visit acdelcotraining.com.

### RECOMMENDED PATH

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<td><strong>Suspension and Steering Self Study Training</strong></td>
<td><strong>Steering System Operation</strong></td>
<td><strong>Suspension System Operation</strong></td>
<td><strong>Tires and Wheels</strong></td>
<td><strong>Wheel Alignment</strong></td>
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#### WBT: Steering and Suspension Inspection and Maintenance
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#### WBT: GM Steering Systems and Diagnosis 1: Hydraulic and Electric Power Steering Systems
- S-SS04-11.01WBT

#### WBT: GM Steering Systems and Diagnosis 2: Dual Pinion and Belt Driven Electric Power Steering Systems
- S-SS04-10.01WBT

#### WBT: Tire Pressure Monitoring Systems
- S-SS04-09.01WBT

#### WBT: GM Chassis Control Systems
- S-SS04-08.02WBT

#### SEM: Chassis Dynamics
- SSS0101SM

#### IST: Successful Power Steering Service
- SSS0101S

### ADDITIONAL TRAINING

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#### VID: Door Hinge Pins and Bushing Kits
- S-SS04-11.01VID

#### SIM: Tire Pressure Monitoring System Diagnostic Exercise
- S-SS04-01.01SIM

#### SIM: GM Chassis Control Systems Diagnostic Exercise
- S-SS04-02.01SIM
A4: SUSPENSION / STEERING

Self Study Training

SUSPENSION AND STEERING SELF STUDY TRAINING
SUSPENSION AND STEERING SELF STUDY TRAINING
This self study course reviews suspension and steering components, operation and service through a systems overview of the suspension and steering and a functional component review.
Languages: English

Web-Based Training

STEERING SYSTEM OPERATION
STEERING SYSTEM OPERATION
This course will provide an overview of steering systems, including steering wheel and column operation, the purpose and function of steering gear, the purpose and components of power assist, the advantage of steering linkage, inner tie rod service. After completing this course, you will be able to identify the purpose and components of the steering wheel and column, the purpose and function of steering gear, the purpose and components of power assist, the purpose and components of power steering pump, the purpose and types of steering linkage, and service procedures for inner tie rods.
Languages: English

SUSPENSION SYSTEM OPERATION
SUSPENSION SYSTEM OPERATION
This course will provide an overview of suspension systems, including components of a suspension systems, the purpose of front and rear suspension systems, the purpose of shock absorbers, different types of suspension systems. After completing this course, you will be able to identify the purpose of a suspension, location, and function of various suspension system components, types, applications, location, and function of springs, safety and service considerations for springs. The purpose, types, and components of shock absorbers. The purpose, application, components, and function of air assisted shock absorbers. The purpose, components, and location of McPherson struts. Safety considerations for McPherson struts. The purpose, applications, types, and components, and operation of independent suspension systems. The purpose, applications, components, and operation of semi-independent suspension systems. The purpose, types, applications, components and operation of air suspension systems.
Languages: English

TIRES AND WHEELS
TIRES AND WHEELS
This course will provide an overview of automotive tires and wheels, including tire composition and tread types, basic wheel measurements and service precautions, a detailed explanation of tire side wall data, and tire service and maintenance procedures. After completing this course, you will be able to identify tire tread wear patterns, properties and dimensions of wheels, tire service and maintenance procedures, tire and wheel rotation patterns, operation of tire pressure monitoring, and proper lug nut installation and torque.
Languages: English

WHEEL ALIGNMENT
WHEEL ALIGNMENT
This course will provide an overview of wheel alignment angles and procedures, including the difference between wheel alignment and balancing, the definition of SAI and elated angles, the definition of toe in and tow out, wheel alignment angles. After completing this course, you will be able to identify proper alignment procedures, reasons to conduct a wheel alignment, three things to check for when test driving a vehicle, camber’s affect on directional control and tire wear, caster’s affect on directional control, toe’s affect on tire wear, and the proper way to measure SAI.
Languages: English

GM CHASSIS CONTROL SYSTEMS
GM CHASSIS CONTROL SYSTEMS
This WBT component covers the components, characteristics, and operation of various chassis control systems found in GM vehicles. Suspension system types, ride and alignment control, air suspension systems, automatic level control, electronically controlled damping, tire pressure monitoring, and alignment will be covered in this course. Upon completion of this WBT, technicians will be able to identify the characteristics and operation of independent and non-independent suspension systems, identify the components and operation of ride control and alignment control, identify the function of the air suspension systems, identify the components and operation of the automatic level control systems, identify the characteristics and operation of electronically controlled damping systems, identify the characteristics and operation of the direct tire pressure monitoring system, and identify the types and characteristics of alignment.
Languages: English
TIRE PRESSURE MONITORING SYSTEMS
This course will introduce you to tire pressure monitoring systems. This course will also discuss the characteristics operation, diagnosis, and servicing of tire pressure monitoring systems. After completing this course, you will be able to recall the characteristics and operation of tire pressure monitoring systems, recall how to diagnose tire pressure monitoring systems using an electrical scan tool / analyzer and a DMM, and recall how to service tire pressure monitoring systems, including calibration and/or resetting the system.
Languages: English

GM STEERING SYSTEMS AND DIAGNOSIS 1:
HYDRAULIC AND ELECTRIC POWER STEERING SYSTEMS
This WBT course covers the characteristics, types, operation, and diagnosis of the steering system and its main components. It also includes a high level overview of some disassembly and assembly service procedures and tools. Upon completion of this course, technicians will be able to identify, steering system fundamentals, steering column and brake transmission shift interlock components and diagnosis, steering gear and steering pump components and diagnosis, features of electronically controlled hydraulic steering systems, types, characteristics, and diagnosis of electronic power steering systems, and steering system performance factors and safety precautions.
Languages: English

GM STEERING SYSTEMS AND DIAGNOSIS 2:
DUAL PINION AND BELT DRIVEN ELECTRIC POWER STEERING SYSTEMS
This WBT course covers the features and characteristics of two electric power steering systems: the rack and dual pinion electric power steering system and the belt-driven electric power steering system. Upon successful completion of this WBT course, technicians will be able to recall the characteristics, features, and the service procedures of the rack and dual pinion electric power steering system and recall the characteristics and features of the belt-driven electric power steering system as well as the GDS2 power steering control module and its learn and reset functions.
Languages: English

STEERING AND SUSPENSION INSPECTION AND MAINTENANCE
This WBT provides the general and specific inspection and maintenance procedures for the steering and suspension systems. The technician will learn how to inspect and identify worn and damaged parts of the steering and suspension system. Upon completion of this course, service technicians will be able to identify the operation of the power steering systems, identify the inspection and maintenance process for inner and outer tie rods, identify the inspection and maintenance process for ball joints, differentiate between the operation and inspection procedures of other steering system components, recall the function of the suspension components, differentiate between dependent and independent front suspension, differentiate between dependent, semi-independent, and independent rear suspension, recall the operation and inspection of the electronic suspension, and identify the operation, inspection, and maintenance of the wheels and tires.
Languages: English

ELECTRONIC POWER STEERING SYSTEMS
This course covers the components, characteristics, and operation of electronic power steering systems including the variable effort power steering systems and the MagnaTec power steering systems. It also covers the components of column-mounted and rack-mounted steering systems.
Languages: English

Seminar
CHASSIS DYNAMICS
Intended for the experienced technician, this seminar will explore the symptoms and corrective actions needed to address abnormal ride and handling concerns. Special attention will be paid to electronic ride control systems, conventional steering and suspension systems, modified vehicles, alignment geometry, yaw control and dynamic steering, and required calibration / programming procedures.
Languages: English
A4: SUSPENSION / STEERING

TIRE PRESSURE MONITORING SYSTEMS  S-SS04-08.01SEM
This 3-hour seminar will cover the Tire Pressure Monitoring Systems. Topics include: Introduction of technology and the regulations that brought it about and how it works. We will discuss the various systems employed by vehicle manufacturers, and how to diagnose and service the systems effectively. We will also cover what’s involved in winter / accessory wheel fitment, and what’s available in TPMS tools, parts and information resources.
Languages: English

POWER STEERING TECHNOLOGY  S-SS04-09.01SEM
This 3-hour seminar will cover some of the electric power steering systems found today. Including the components and operation, diagnostics and servicing these electric power steering systems. Even though electric power steering technology is expanding into more vehicles, let us not forget that many vehicles on the road still have hydraulic power steering. Additionally, some unique features of new technology found in electronically enhanced hydraulic systems, as well as diagnostic and service tips will be discussed.
Languages: English

InShop Training

SUCCESSFUL POWER STEERING SERVICE  SSS0101IS
This 1-hour InShop will cover the proper procedures for effective diagnosis and repair of today’s hydraulic and electric power steering systems. We will discuss ways to prevent come backs by using proper diagnostic and repair procedures. Common installation issues will be discussed including the use of proper fluids, flushing, and pulley installation. Electronic power steering installation and setup procedures will be discussed.
Languages: English

Simulation

TIRE PRESSURE MONITORING SYSTEM DIAGNOSTIC EXERCISE  S-SS04-01.01SIM
This mobile ready DE is compatible with the following browsers: Apple Safari, Internet Explorer 10 & 11, Google Chrome & Mozilla Firefox. This course presents three diagnostic exercises related to the tire pressure monitoring system. Through these interactive exercises, the course provides learners with a demonstration on how to diagnose and resolve common faults of the tire pressure monitoring system in motor vehicles. Upon completion of this course, participants will be able to recall the steps to diagnose a defective remote control door lock receiver, a defective tire pressure monitoring sensor, and an incorrect setup in the Body Control Module (BCM) for the tire pressure monitoring system.
Languages: English

GM CHASSIS CONTROL SYSTEMS DIAGNOSTIC EXERCISE  S-SS04-02.01SIM
This mobile ready DE is compatible with the following browsers: Apple Safari, Internet Explorer 10 & 11, Google Chrome & Mozilla Firefox. This course presents three diagnostic exercises related to GM chassis control systems. Through these interactive exercises, the course provides participants with a demonstration on how to diagnose and resolve chassis control system concerns, including faults with the multi axis sensor, suspension position. Upon completion of this course, participants will be able to recall the steps to diagnose a fault in the multi axis sensor, the suspension position sensor, and the wiring for the multi axis sensor and steering wheel angle sensor.
Languages: English

TECHAssist

TIRE PRESSURE MONITORING SYSTEM (TPMS) DIAGNOSTICS  S-DS11-07.01TAS
This TECHAssist will show the diagnostic procedure for troubleshooting the Tire Pressure Monitoring System (TPMS) on vehicles.
Languages: English

HIGH PERFORMANCE STRUT SUSPENSION  S-SS04-08.01TAS
This course covers the characteristics and advantages of the high performance strut suspension. Upon completion of this course, technicians will be able to recall the characteristics and advantages of the high performance strut suspension.
Languages: English
A4: SUSPENSION / STEERING

TechTube Videos

HUB FLANGE RUNOUT CHECK S-SS04-01.01VID
This video demonstrates the process on how to properly measure hub flange runout.
Languages: English

ON VEHICLE RUNOUT CHECK S-SS04-02.01VID
This video demonstrates how to measure on vehicle runout of the tire assembly, which includes the tire, rim and hub.
Languages: English

READY STRUTS S-SS04-03.01VID
This video describes how to diagnose strut concerns and why you should use ACDelco Professional ReadyStrut complete assemblies.
Languages: English

TPMS S-SS04-08.01VID
This video describes the operation of tire pressure monitor systems.
Languages: English

ELECTRIC POWER STEERING S-SS04-09.01VID
This video describes the various types of electric power steering systems.
Languages: English

AUTOMATIC LEVEL CONTROL REAR AIR SHOCK REPLACEMENT S-SS04-10.01VID
This video demonstrates diagnosis and repair of General Motors Auto Level Control Rear Air Shocks, from verifying air pressure, to proper installation of the replacement air shocks.
Languages: English

DOOR HINGE PINS AND BUSHING KITS S-SS04-11.01VID
This video demonstrates inspection and replacement procedures of door hinge pins and bushings, highlighting ACDelco’s greaseable replacement pins and complete hinge assemblies.
Languages: English
A recommended path for completing the Brakes curriculum is outlined below. To complete the training below and to search for and complete additional training, visit acdelcotraining.com.

### RECOMMENDED PATH

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<td>Motor on Caliper Parking Brake System</td>
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### ADDITIONAL TRAINING

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Self Study Training

BRAKES SELF STUDY TRAINING
This self study guide covers braking system components and their operation. Topics include an overview of braking systems, description and operation of braking subsystem components, and advanced braking systems.
Languages: English

Web-Based Training

BRAKES INSPECTION AND MAINTENANCE
This course covers the basic procedures for the inspection and maintenance of brake systems. The course presents an overview of the relevant components and their operation, and covers the appropriate inspection and maintenance procedures. Upon completion of this course, participants will be able to identify the major components of a vehicle’s brake system, recall the basic operation of the brake system, and recall how to inspect the brake system.
Languages: English

BRAKING SYSTEMS: BASE BRAKES FUNDAMENTALS
This WBT course covers brakes fundamentals: the apply system, the boost system, and the hydraulic braking system.
Languages: English

BRAKING SYSTEMS: BASE BRAKES COMPONENTS AND OPERATION
This WBT course covers the components and operation of wheel brakes, both drum and disc brake systems, as well as manual and electronic parking brakes.
Languages: English

BRAKING SYSTEMS: ANTILOCK SYSTEMS
This WBT course covers Antilock Braking System (ABS) characteristics and operation, and automatic traction control characteristics and operation. This course also covers vehicle stability enhancement system theory, characteristics, and operation.
Languages: English

BRAKING SYSTEMS: ENHANCED APPLICATIONS
This WBT course covers the enhanced applications of braking systems, including optimized braking systems and performance braking systems.
Languages: English

MEDIUM DUTY AIR BRAKE SYSTEMS
This course will detail the air brake and air brake antilock braking systems for medium duty trucks. Upon completing this course, participants will be able to summarize the air brake system of medium duty trucks, recognize the control components of the air brake system, recognize the foundation brake components of the air brake system, relate how each component operates within the air brake system, and summarize how the air brake antilock braking system functions.
Languages: English

MOTOR ON CALIPER PARKING BRAKE SYSTEM
This WBT course provides an overview of the motor on caliper parking brake system. Topics covered include the motor, system components, operation, enabling criteria, and service procedures. Upon completion of this course, technicians will be able to explain the components, operation, enabling criteria, and service of the motor on caliper parking brake system.
Languages: English/French

Instructor-Led Training

ELECTRONIC BRAKE AND CHASSIS CONTROLS
The Electronic Brake and Chassis Controls course uses real-world scenarios based on vehicles from several manufacturers. Course content focuses on the different strategies and components used to control chassis and brakes systems. After exploring the operation of various systems and their components, Original Equipment Manufacturer (OEM) supported diagnostic techniques will be examined. Technicians who complete this course will be able to diagnosis common concerns in the following systems: Antilock Brakes, Tire Pressure Monitoring, and Electronic Power Steering.
Languages: English
A5: BRAKES

Seminar

BRAKE NOISE DIAGNOSIS  S-BK05-07.01SEM
Modern brake systems operate on the same principles that braking systems have used for over 100 years. Recent regulation changes combined with the pursuit of improved fuel economy and safety have resulted in changes in the designs. Some changes have increased the occurrences of the braking system noises. This three-hour seminar presents information on diagnosing brake system noise concerns, service tips and procedures to reduce brake noise comebacks. In addition, special service tools and AC Delco brake products are discussed.
Languages: English

InShop Training

ANTILOCK BRAKING SYSTEMS  S-BK05-03.01SEM
This 1-hour InShop covers the major suppliers of Antilock Brake Systems (ABS). The major components of ABS will be covered, including the Electronic Brake Control Module (EBCM) and Brake Pressure Modulator Valve (BPMV), as well as how these components enable operation of the system. Operation of the system will be discussed in comparison with non-ABS vehicles. ABS service and diagnostics will also be covered, include brake bleed procedures and tire replacement.
Languages: English

TRACTION CONTROL AND STABILITY ENHANCEMENT SYSTEMS  S-BK05-02.01SEM
This 1-hour InShop covers Traction Control and Stability Enhancement systems, as well as similar systems found on various vehicle manufacturers. The history and future trends of these systems will also be covered. The main components of Traction Control systems will be covered, including engine speed components, throttle position, ECM / PCM, throttle actuator module, TCS “OFF” switch, and lateral accelerometer. Operation of this system, including engine management and brake intervention will be covered. Operation and control of Stability Enhancement systems will be briefly discussed, including understeer and oversteer, zero point calibration, active yaw control, and vehicle stability assist. The seminar will also cover the typical components within Stability Enhancement systems, including lateral and longitudinal accelerometers, yaw rate sensor, wheel speed sensor, and steering wheel position sensor. Diagnosis of the two systems and how they are integrated together will also be covered.
Languages: English

BRAKE NOISE DIAGNOSIS AND SERVICE  S-BK05-06.01SEM
This 1-hour InShop covers diagnosis of various brake noises. Specific topics include evaluating brake noise, sources of brake noise, tips for preventing brake noise, and suspension noise. The seminar will also cover the service tools necessary to diagnose brake noises, including micrometers, brake lathe, measuring tools, and hydraulic pressure gauge.
Languages: English

TechTube Videos

GM TRUCK BRAKE LINE KITS  S-BK05-03.01VID
This service video will address 1999-2007 GM full sized pickup trucks and SUVs that are in need of a hydraulic brake line repair. AC Delco offers pre-formed and flared brake line kits, each of which is sold with all the lines needed to replace the entire brake line assembly for these vehicles. This video will illustrate the key points of this repair as well as bulletin 14D-101.
Languages: English

Simulation

BRAKING SYSTEMS DIAGNOSTIC EXERCISE  S-BK05-02.01SIM
This one-hour seminar covers Traction Control and Stability Enhancement systems, as well as similar systems found on various vehicle manufacturers. The history and future trends of these systems will also be covered. The main components of Traction Control systems will be covered, including engine speed components, throttle position, ECM / PCM, throttle actuator module, TCS “OFF” switch, and lateral accelerometer. Operation of this system, including engine management and brake intervention will be covered. Operation and control of Stability Enhancement systems will be briefly discussed, including understeer and oversteer, zero point calibration, active yaw control, and vehicle stability assist. The seminar will also cover the typical components within Stability Enhancement systems, including lateral and longitudinal accelerometers, yaw rate sensor, wheel speed sensor, and steering wheel position sensor. Diagnosis of the two systems and how they are integrated together will also be covered.
Languages: English
A recommended path for completing the Electrical / Electronic Systems curriculum is outlined below. To complete the training below and to search for and complete additional training, visit acdelcotraining.com.

**RECOMMENDED PATH**

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## A6: ELECTRICAL / ELECTRONIC SYSTEMS

### ADDITIONAL TRAINING

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Self Study Training

**ALTERNATORS / GENERATORS AND STARTERS SELF STUDY TRAINING**  SFN0101SF
An explanation of popular automotive alternator and starter designs. Includes alternator and starter functions as well as components, and hybrid vehicle starter-generator information.
**Languages:** English

**BATTERIES SELF STUDY TRAINING**  SFN0201SF
An explanation of popular automotive battery groups and designs. Includes construction, service and replacement information.
**Languages:** English

Web-Based Training

**BATTERY INSPECTION AND MAINTENANCE**  S-EL06-33.02WBT
This course presents an overview of the components and procedures related to battery inspection and maintenance. The course covers battery location, inspection, replacement, and jump-starting. It also identifies the characteristics and procedures for the inspection of electrical centers, and the operational modes of ignition devices. In addition, the course covers the steps on how to restore personal radio settings in a customer’s vehicle after battery service.
**Languages:** English

**BATTERY, STARTING AND CHARGING SYSTEM OPERATION**  S-EL06-73.01WBT
This course describes automotive batteries, the charging system, and the starting system. The course covers basic information including the purpose of automotive batteries, battery components, battery types, voltage and capacity of a battery, battery ratings, how to select a battery, the factors affecting battery life, battery safety, battery maintenance, and battery tests. The course also covers the purpose of the charging system, the alternator, internal and external voltage regulators, and computer controlled voltage regulation. Finally, the course covers the purpose of the starting system, starting system components, and starting system service.
**Languages:** English

**ELECTRICAL / ELECTRONICS STAGE 1**  SEL0501WB
This WBT course focuses on the fundamental laws of electricity and reading electrical schematics. The topics covered in this course include voltage, current, resistance, voltage drop, Ohm’s Law, electromagnetic induction, and electrical circuits. Upon completing this course, participants will be able to identify the basic characteristics of electricity, identify the basic characteristics of automotive electric circuits, and identify the characteristics of electrical circuit types.
**Languages:** English

**ELECTRICAL / ELECTRONICS STAGE 2**  SEL0601WB
This WBT course focuses on the fundamentals of electricity and vehicle diagnosis and repair. The topics covered in this course include sources of automotive electricity, circuit protectors, circuit control devices, and circuit loads. Upon completing this course, participants will be able to identify sources of automotive electricity, identify the characteristics and functions of circuit protectors, identify the characteristics of circuit control devices, and identify the characteristics of circuit loads.
**Languages:** English

**ELECTRICAL / ELECTRONICS STAGE 3**  SEL0701WB
This WBT course focuses on the fundamentals of the Digital Multimeter (DMM) controls and functions and DMM usage. The topics covered in this course include safety and caution, proper DMM set up, measurement scales, measuring voltage, measuring voltage drop, measuring resistance, and measuring amperage. Upon completing this course, participants will be able to recall Digital Multimeter (DMM) controls and functions, recall safety and caution, recognize proper set up, identify measurement scales, recall how to measure voltage, recall how to measure voltage drop, recall how to measure resistance, and recall how to measure amperage.
**Languages:** English

**ELECTRICAL / ELECTRONICS STAGE 4**  SEL0801WB
This WBT course focuses on important types, characteristics, and diagnosis of various solid state electrical components. The topics covered in this course include characteristics of capacitors, types of semiconductors, characteristics of semiconductors, types of diodes, characteristics of diodes, diagnosis of diodes, and characteristics of transistors. Upon completing this course, participants will be able to recall the characteristics of capacitors, recall types of semiconductors, recall the characteristics of semiconductors, recall different types of diodes, recall the characteristics of diodes, recall diagnosis of diodes, and recall the characteristics of transistors.
**Languages:** English
This WBT course will familiarize the service technicians with electrical and electronics systems used on today’s GM vehicles, as well as the characteristics and functions of control modules. The service technicians will also become familiarized with the characteristics and diagnosis of various electronic sensors and communication throughout the vehicle. Upon completing this course, participants will be able to identify common characteristics and functions of control modules, identify the types of variable resistance sensors, identify the characteristics and diagnosis of various electronic sensors, and identify important features of communication systems.

**Languages:** English

This WBT course will familiarize the service technicians with electrical and electronics systems used on GM vehicles. The service technicians will also become familiarized with the fundamentals of electricity and how it pertains to successful vehicle diagnosis and repair. Upon completing this course, participants will be able to identify electrical circuit components, identify the characteristics of electrical circuit faults, and identify the characteristics of electrical circuit repairs.

**Languages:** English

This course presents the principles of electrical circuits, including the common types of circuits and functions used in the electrical architecture of GM vehicles. Upon completion of this course, participants will be able to identify concepts of electrical circuits, including ground and voltage circuits, characteristics of signal circuits and control circuits, and serial data circuits and communication.

**Languages:** English

This course presents standard procedures for the diagnosis of electrical systems in GM vehicles. Upon completion of this course, participants will be able to identify the characteristics of global diagnostics for electrical systems, including the information for the diagnosis of electrical faults, the diagnostic format to verify electrical circuits, and the logical order in which to test electrical systems.

**Languages:** English

This course contains two parts. The first part covers how to perform voltage drop testing in order to diagnose and repair a high resistance condition in an electrical circuit. The second part of the course is a diagnostic exercise. It also covers how to use a systematic process to verify a concern, identify possible causes, make a detailed visual inspection, use Service Information, perform testing to identify the fault, and then repair the fault, and verify the repair.

**Languages:** English

This Instructor-led Training (ILT) course covers the properties of electricity, electrical testing, and diagnosis. Topics covered include: review of the common circuits and functions used in vehicle electrical systems, DMM functions and usage, test lights, terminal service and component testing. Exercises allow participants to apply circuit testing strategies and tools to different components, circuits, and functions.

**Languages:** English

This Instructor-led Training (ILT) course covers battery, starting, and charging system component operation, diagnosis and testing, and best service practices. Hands-on exercises provide opportunities for improving skills, performing measurements, interpreting test results, and making diagnostic decisions.

**Languages:** English

This Instructor-led Training (ILT) course covers the properties of electricity, interpreting and using electrical schematics, advanced digital multimeter (DMM) usage, scan tool diagnosis tactics, and alternate test tool usage. Hands-on exercises provide opportunities for practicing skills, making measurements, interpreting test results and making diagnostic decisions.

**Languages:** English
Seminar

STARTING AND CHARGING SYSTEM DIAGNOSIS  SEL0201SM
This seminar covers battery, starting, and charging system component operation, diagnosis and testing, and correct service practices. The discussion on battery operation will include details on flooded and Absorbent Glass Mat (AGM) types of batteries with emphasis on correct diagnosis and service. Starting topics will include processor controlled cranking systems, stop / start technology, and current diagnostic procedures. Participants will discuss computer-controlled charging systems including Regulated Voltage Controls (RVC), electrical power management, and advanced diagnostic procedures.
Languages: English

VEHICLE LIGHTING AND ACCESS  SEL0301SM
This seminar covers vehicle lighting and access system component operation, diagnosis, testing and correct service practices. The discussion on vehicle lighting systems will include details on bulb monitoring, Pulse Width Modulated (PWM) lamp control, LED lighting, xenon lighting, dynamic headlight range and level control, adaptive forward lighting, laser lighting, and vehicle lighting system diagnostic strategies. Vehicle access system topics will include door lock, liftgate, and trunk release system operation and diagnostic strategies. Participants will discuss movable glass systems including power window system operation, and diagnostic strategies for door windows, back glass and sunroof systems.
Languages: English

VEHICLE TECHNOLOGY UPDATE  S-EL06-44.02SEM
This three-hour seminar will teach technicians the most current methods for programming new, or updating existing, electronic control modules in various manufacturers’ vehicles. This course looks at some of the tools available to the aftermarket for programming. The manufacturers’ websites that contain programming information will be discussed. After completing this course, technicians will be able to describe the tools and resources necessary for reprogramming electronic control modules.
Languages: English

InShop Training

STARTING AND CHARGING SYSTEM DIAGNOSIS AND REPAIR  SEL0101IS
This 1-hour InShop course covers the proper way to diagnose and repair starting and charging systems. Emphasis will be placed on discovering the root cause of starting and charging system failures and proper service procedures.
Languages: English

BATTERIES  S-EL06-01.01IST
This 1-hour InShop will cover battery testing and replacement. Topics include: battery testing, charging and replacement, parasitic draw testing and OnStar precautions.
Languages: English

Simulation

ELECTRICAL SYSTEM DIAGNOSTIC CHALLENGE  S-EL06-01.01SIM
This technician course is a web-based electrical simulation which is designed to challenge the skilled service technician. This simulation is not a training exercise and therefore minimal feedback is provided during the duration of the activity. Upon completion of the simulation a score is provided based upon following the optimal strategy based diagnostic path and how much time it took to complete the simulation.
Languages: English

TechTube Videos

CRIMPER 6 AND 7  S-EL06-01.01VID
This short video will explain the proper use of electrical crimpers number 6 and 7 in the GM terminal and connector kit.
Languages: English

J38125-8 CRIMPING TOOL OPERATION  S-EL06-02.01VID
This video demonstrates the proper use of the J-38125-8 crimping tool for installing a Duraseal Crimp splice sleeve on vehicle wiring to create an effective and lasting repair.
Languages: English
A6: ELECTRICAL / ELECTRONIC SYSTEMS

AMBIENT AIR TEMP SENSOR DIAGNOSIS  S-EL06-03.01VID
This video shows a diagnosis procedure for an ambient temp sensor using the schematic to isolate the concern.
Languages: English

BATTERY MAINTENANCE AND TESTING TIPS  S-EL06-04.01VID
This video describes battery concerns due to long periods of non-use and the importance of maintenance charging, as well as tips for cold battery diagnosing, testing and charging.
Languages: English

LOCAL INTERCONNECT NETWORK DIAGNOSIS  S-EL06-05.01VID
This video shows the diagnosis of the Local Interconnect Network (LIN) and how to locate module programming and setup procedures.
Languages: English
A recommended path for completing the Heating and Air Conditioning curriculum is outlined below. To complete the training below and to search for and complete additional training, visit acdelcotraining.com.

### RECOMMENDED PATH

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<td>HVAC Systems and Operation Stage 2: Air Distribution and Controls</td>
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<td>Refrigeration Diagnostics and Service Procedures</td>
<td>HVAC Controls Diagnosis and Service Techniques</td>
<td>HVAC Systems and Operation Stage 3: Diagnosis, Recovery, and Recharging</td>
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A7: HEATING AND AIR CONDITIONING

Self Study Training

**HVAC SELF STUDY TRAINING**

This self study course covers air conditioning system components, operation and service. Course topics include: air conditioning systems, air distribution systems, and HVAC service overview.

Languages: English

Web-Based Training

**COOLING SYSTEM INSPECTION AND MAINTENANCE**

This course covers the inspection and maintenance of the accessory drive belt, including the replacement of the drive belt and tensioner. This course also covers the inspection and maintenance of the radiator and coolant hoses, including pressure testing and documenting the findings on a work order.

Languages: English

**HVAC SYSTEM INSPECTION AND MAINTENANCE**

This course presents an overview of a vehicle’s Heating, Ventilation, and Air Conditioning (HVAC) system, including components and operation, and then covers the basic procedures for the inspection and maintenance of an HVAC system. The course also covers relevant aspects of the inspection of HVAC systems in a hybrid vehicle.

Languages: English

**HVAC SYSTEMS AND OPERATION STAGE 1: FUNDAMENTALS**

This course provides the fundamentals of Heating, Ventilation, and Air Conditioning (HVAC) systems. It covers the theory, characteristics, and operation of HVAC Air Conditioning (A/C) systems. This course provides an overview of the function and operation of HVAC components. It provides information about the various types of compressors, along with the operation of the piston-type and scroll-type compressors. This course also covers the characteristics of refrigerants and the operation of fixed orifice systems. Participants will also learn safety practices. Upon completion of this course, participants will be able to recall HVAC system characteristics and theory and identify refrigerant systems and their components.

Languages: English/French

**HVAC SYSTEMS AND OPERATION STAGE 2: AIR DISTRIBUTION AND CONTROLS**

This course provides the servicing and performance diagnosis of Heating, Ventilation, and Air Conditioning (HVAC) systems. It also covers the operation of recovery and recharging stations. Upon completion of this course, the participant will be able to recall Heating, Ventilation and Air Conditioning (HVAC) system servicing, including performance diagnosis, and identifying recovery / recharging station functions.

Languages: English/Spanish/French

**HVAC SYSTEMS AND OPERATION STAGE 3: DIAGNOSIS, RECOVERY, AND RECHARGING**

This course provides the fundamentals of Heating Ventilation and Air Conditioning (HVAC) systems. It also covers HVAC theory, the function and operation of HVAC components, and servicing HVAC systems. Upon completion of this course, participants will be able to recall practices for servicing heating, ventilation, and air conditioning systems, recall air conditioning performance diagnosis, identify recovery and recharging stations, recall air distribution fundamentals, and identify control head input and output components.

Languages: English/French
Instructor-Led Training

REFRIGERATION SYSTEMS OPERATION AND TESTING S-AC07-05.01ILT
This full day Instructor-Led Training (ILT) course will provide technicians with the foundational knowledge of Air Conditioning (A/C) system operation required to effectively service, diagnose and repair R-134a and R-1234yf based A/C systems. The operation, computerized control and common failures will be discussed from the point of view of system diagnostics and servicing. The goal is to teach service procedures that result in maximum A/C system efficiency. The following components will be covered in detail: variable displacement compressors, electrically driven compressors, expansion valves, Internal Heat Exchangers (IHX), enhanced evaporators and condensers. Hands-on exercises will emphasize proper use of the tools and equipment while performing common service scenarios and diagnostics.

Languages: English

Seminar

HVAC CONTROLS DIAGNOSIS AND SERVICE TECHNIQUES S-AC07-06.01SEM
This seminar will provide technicians with the diagnostic techniques and strategies required to diagnose non-refrigerant related issues with the HVAC electronic controls that impact electronically regulated compressor operation and the air delivery system. Specific components and systems covered include: HVAC control inputs, condenser and blower motor fan controls and operation, manual, electronic and automatic temperature control and electronic mode door actuators and their control of air delivery and airflow in single and multiple zone adjustable systems. Setup procedures for all related modules will be reviewed. This course will include simulated diagnostic exercises to apply the principles learned.

Languages: English

REFRIGERATION DIAGNOSTICS AND SERVICE PROCEDURES S-AC07-07.01SEM
Designed for technicians with prior understanding of the refrigerant cycle and system operation, this seminar will provide technicians with techniques and strategies required to isolate the root cause and perform repairs of failures in R-134a and R-1234yf equipped Air Conditioning (AC) systems. The use of pressure-temperature and humidity readings as a diagnostic aide will be the foundation of the course. Specific component diagnosis includes variable displacement compressors, electrically driven compressors, expansion valves, Internal Heat Exchangers (IHX), enhanced evaporators and condensers. This course will include simulated diagnostic exercises to apply the principles learned.

Languages: English

Simulation

HVAC SYSTEM DIAGNOSTIC CHALLENGE S-AC07-01.01SIM
This course is a web based HVAC simulation which is designed to challenge the skilled service technician. This simulation is not a training exercise, and therefore, minimal feedback is provided during the duration of the activity. Upon completion of the simulation, a score is provided based upon following the optimal strategy based diagnostic path and how much time it took to complete the simulation.

Languages: English

InShop Training

A/C COMPRESSOR REPLACEMENT S-AC07-01.01IST
This 1-hour InShop will cover important tips and procedures for replacing A/C compressors to ensure a long service life. Topics include: system contamination and flushing procedures, and the selection of correct refrigerant oil.

Languages: English

TechTube Videos

ACTUATOR RECALIBRATION PROCEDURE S-AC07-01.01VID
This short video will demonstrate how to perform an HVAC actuator recalibration on some GM vehicles.

Languages: English

HVAC ACTUATOR RESET PROCEDURE S-AC07-02.01VID
This short video will demonstrate how to get an HVAC actuator back in range if it has been run out of its set points.

Languages: English
HFO-1234YF NEW COOLER
This video will share some information about a new A/C refrigerant (R-1234yf) that will be in your shop soon if you haven’t already seen it.
Languages: English

A/C REFRIGERANT OILS
This video looks at A/C refrigerant oils and concerns to be aware of, including, why A/C mineral oil 525 should be used to lubricate A/C system o-rings to prevent corrosion of connections.
Languages: English

R-1234YF LEAK DETECTOR
This video shows how to use the R-1234yf leak detector and why you should not use a detector that is not rated for R-1234yf.
Languages: English
A recommended path for completing the Engine Performance curriculum is outlined below. To complete the training below and to search for and complete additional training, visit acdelcotraining.com.

**RECOMMENDED PATH**

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**ADDITIONAL TRAINING**

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</table>
A8: ENGINE PERFORMANCE

Self Study Training

BELTS AND HOSES SELF STUDY TRAINING  SFN0301SF
An explanation of popular automotive belts and hoses design. Includes multi-ribbed serpentine belts, V-belts and engine timing belts. Molded radiator and bypass hoses along with fuel-resistant and specialty hoses will be covered. Hybrid vehicle information as it relates to belts is also explored.
Languages: English

EMISSIONS SELF STUDY TRAINING  SFN0701SF
An explanation of popular automotive emission systems. Includes EVAP Systems, catalytic converters, PCV Valves, air injection systems, secondary air pumps and EGR Valves.
Languages: English

FILTERS SELF STUDY TRAINING  SFN0801SF
An explanation of popular automotive filter designs. Includes construction, identification, and replacement information for air, oil, fuel, transmission, coolant and cabin air filters.
Languages: English

FUEL SYSTEMS SELF STUDY TRAINING  SFN1001SF
An explanation of popular automotive fuel systems. Includes fuel injectors, regulators, Multiport Fuel Injection (MFI) systems and Spark Plug Ignited Direct Injection (SIDI) components.
Languages: English

IGNITIONS SELF STUDY TRAINING  SFN1201SF
An explanation of popular automotive ignition systems and high voltage delivery system designs. Includes coils, spark plug wires, spark plugs, primary and secondary circuit components, distributor and distributorless systems.
Languages: English

ENGINE COOLING SYSTEM SELF STUDY TRAINING  SFN1301SF
An explanation of popular automotive cooling system designs. Includes water pumps, radiators, coolants, chemicals, hoses and heater cores. Hybrid vehicle information as it relates to engine cooling system is also explored.
Languages: English

SPARK PLUGS SELF STUDY TRAINING  SFN1501SF
An explanation of popular automotive spark plugs and design. Conventional tip, extended tip, RAPIDFire Platinum, and heat ranges are presented.
Languages: English

Web-Based Training

TUNE-UP, INSPECTION AND MAINTENANCE  SEP0101WB
This WBT provides the general and specific inspection and maintenance procedures for tune ups. The technician will learn how to inspect and identify specific components involved in a tune up. Upon completion of this course, service technicians will be able to identify the types and condition of spark plugs, identify wire inspection procedures, identify the types of coil packs, identify the location of cylinder number 1, and identify the replacement procedures for tune up components.
Languages: English

BI-FUEL SYSTEM OPERATION  S-EP08-29.01WBT
General Motors bi-fuel systems use a combination of Compressed Natural Gas (CNG) fuel and traditional gasoline systems. This course covers the process of how the bi-fuel system operates and performs in comparison to a traditional gasoline vehicle. It also identifies components involved in bi-fuel system operation and bi-fuel supply operations. Bi-fuel diagnostic scenarios for no start and improper CNG operation will be discussed. In addition to diagnostics, the bi-fuel inspection and maintenance process including leak checking and tank removal safety will be presented. Vehicle storage will also be covered. Upon completion of this course, participants will be able to describe the bi-fuel system components and operation, describe bi-fuel system diagnostic procedures, and recall bi-fuel system inspection and maintenance procedures.
Languages: English
A8: ENGINE PERFORMANCE

ENGINE PERFORMANCE: AIR MANAGEMENT
This course covers the fundamentals of engine performance, including the internal combustion process, air induction, fuel supply, and the exhaust system. The focus is on air management in relation to the internal combustion engine. Topics include atmospheric pressure, volumetric efficiency, components of induction systems, electronic throttle operation, and airflow diagnostics. Upon completion of this course, participants will be able to describe the principles of internal combustion engines and the air management system, including the underlying science, components, electronic throttle control, and intake flow rationality diagnostics.
Languages: English/Spanish/French

ENGINE PERFORMANCE: FUEL AND DELIVERY
This course covers the theory and characteristics of fuel management systems in GM vehicles, including the operation of sequential port fuel injection and spark-ignited direct injection. Upon completion of this course, participants will be able to identify the theory, characteristics, and operation of different types of fuel management systems.
Languages: English/Spanish/French

ENGINE PERFORMANCE: IGNITION
This course presents the characteristics of ignition systems, including the different sections and their functions. Topics cover the operation of the coil-near-plug and coil-on-plug ignition systems. Upon completion of this course, participants will be able to identify basic characteristics of ignition systems, as well as the crankshaft position variation learn procedure.
Languages: English/Spanish/French

ENGINE PERFORMANCE: ELECTRONIC CONTROL SYSTEMS
This course presents the electronic control systems in GM vehicles in relation to engine performance. Topics include: the function of the engine control module, modes of operation, the fundamentals of emission control systems, characteristics of Onboard Diagnostics II (OBD-II), the diagnostics of engine off natural vacuum, the operation of positive crankcase ventilation, and monitoring techniques for emission control systems. Upon completion of this course, participants will be able to describe the characteristics of electronic control systems and emission control systems, along with the techniques for monitoring emission control systems.
Languages: English/Spanish/French

ENGINE PERFORMANCE: TROUBLESHOOTING
This course presents engine performance troubleshooting using strategy-based diagnostics. Topics cover how to diagnose engine performance using external visual inspection, system-based strategy, diagnosis based on Diagnostic Trouble Codes (DTCs), and misfire monitoring. The course also provides information about how to diagnose engine performance support systems, including the air conditioning clutch, communications, cooling fan, cruise control, active fuel management, cam phaser, and enhanced electronic pedal override. Upon completion of this course, participants will be able to describe how to troubleshoot and diagnose engine performance concerns, and how to diagnose engine performance support systems.
Languages: English

BI-FUEL SYSTEM OPERATION FOR RPO LFR/FHV
General Motors bi-fuel systems use a combination of Compressed Natural Gas (CNG) fuel and traditional gasoline systems. This course covers bi-fuel system components, operation, and diagnostics and repair for the RPO LFR / FHV system. It describes how the bi-fuel system operates and performs in comparison to a traditional gasoline vehicle. This course also identifies components involved in bi-fuel system operation and supply, as well as some common diagnostic and service procedures.
Languages: English

Simulation

ENGINE PERFORMANCE DIAGNOSTIC CHALLENGE
This course is a web-based engine performance simulation which is designed to challenge the skilled service technician. This simulation is not a training exercise and therefore minimal feedback is provided during the duration of the activity. Upon completion of the simulation a score is provided based upon following the optimal strategy based diagnostic path and how much time it took to complete the simulation.
Languages: English
Instructor-Led Training

ENGINE PERFORMANCE DIAGNOSIS  SEP0101IL
This course focuses on failure modes that contribute most often to misfire and no-start engine performance concerns. Lessons are sequenced in priority order, from issues with the highest fault potential, to systems with the lowest fault potential. This course uses real world scenarios based on vehicles from several manufacturers to focus on various failure modes and related diagnostic procedures.
Languages: English

AFTER COMBUSTION SENSORS  S-EP08-06.01ILT
Your scan tool shows the Heated Oxygen Sensor voltage stuck under 500mv. Should the fuel trims be positive or negative? After combustion sensors course uses real world scenarios based on vehicles from several vehicle manufacturers to focus on the relationship between Heated Oxygen Sensor, Fuel Trims and Catalytic Converters. We will examine OEM supported techniques and tools to diagnosis Heated Oxygen Sensor, Fuel Trims and Catalytic Converters.
Languages: English

AFTER COMBUSTION SENSORS  S-EP08-07.01ILT
This course explores the different operational and diagnostic procedures on various vehicle manufacturers’ air induction and fuel systems. In this class, technicians will use a combination of hands on exercises and case studies to develop various service strategies, reducing time spent under the hood.
Languages: English

EVAPORATIVE EMISSIONS CONTROLS  S-EP08-08.02ILT
The EVAP Controls course uses real world scenarios based on vehicles from several manufacturers to focus on the different strategies and components used by various manufacturers to detect Evaporative Emission leaks. After exploring the operation of various systems and its components, OEM supported techniques and tools for finding leaks are examined.
Languages: English

DIRECT INJECTION  S-EP08-10.01ILT
This comprehensive Instructor Led Training (ILT) course covers direct injection systems for gasoline and diesel engines. The discussion and hands-on based sessions include animations, videos, case studies, schematics and vehicle-based exercises. Direct Injection information for both gasoline and diesel engines includes: system components, system operation, diagnosis and service.
Languages: English

Seminars

IGNITION SYSTEMS DIAGNOSTICS  S-EP08-40.01SEM
Diagnosing ignition system misfires can be a difficult task, especially when the concern is intermittent. This seminar will improve the technician’s ability to identify the root cause of ignition systems faults. Ignition system components including: crank and cam sensors, knock sensors, coils, spark plugs and spark plug wires, computer controlled ignition timing and spark delivery strategies from multiple automobile manufacturers will be covered. Cylinder misfire detection and diagnostic strategies, known malfunctions, real-world case studies and diagnostic exercises will be presented.
Languages: English

EVAP DIAGNOSIS  S-FC02-02.01SEM
This seminar will provide an overview of evaporative emissions and the systems that control them. Topics include the function of the fuel tank ventilation system, charcoal canister, purge and vent valves, fuel tank pressure sensors, Leak Detection Pumps (LDP) and other components. We will discuss the strategies and function of Onboard Refueling Vapor Recovery (ORVR), Engine Off Natural Vacuum (EONV), including the diagnosis of P0440, P0442 and other EVAP system DTCs.
Languages: English

InShop Training

FUEL PUMP REPLACEMENT  S-EP08-01.01IST
This 1-hour InShop will cover important tips and procedures for servicing electric in-tank fuel pumps. Topics include: fuel tank inspection, importance of a clean tank, installation tips and servicing the electrical connector (pigtail).
Languages: English
A recommended path for completing the Light Duty Diesel curriculum is outlined below. To complete the training below and to search for and complete additional training, visit acdelcotraining.com.

### RECOMMENDED PATH

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<td>Diesel Common Rail Fuel System</td>
<td>Diesel Engine Subsystems</td>
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<tr>
<td>Duramax 6600 Diesel Engine Features-RPO LLY</td>
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Self Study Training

DIESEL EMISSIONS SELF STUDY TRAINING SFN0601SF
This self study course covers diesel gas emissions and the technology employed to reduce the exhaust emissions to comply with environmental regulations. Topics will include the function of diesel emission controls, symptoms of malfunctions, and basic maintenance and service checks.
Languages: English

Web-Based Training

DIESEL ENGINE PERFORMANCE 1: DIESEL ENGINE INTRODUCTION SDE0101WB
Part one of this four-part WBT course covers the 6.6L Duramax diesel engines including an introduction to diesel engines, models, features, vehicle applications, Environmental Protection Agency (EPA) regulations, operational components, systems, new equipment, diagnostics and troubleshooting. Upon completion of this component, technicians will be able to recall how to identify diesel engines and diesel fuel, how to identify Duramax 6.6L engine models and their applications, Environmental Protection Agency (EPA) regulations for diesel engines, Duramax 6.6L diesel engine control system, and Inputs & Outputs related to the engine control system.
Languages: English

DIESEL ENGINE PERFORMANCE 2: DIESEL ENGINE GLOW PLUG AND FUEL SYSTEM DIAGNOSIS AND SERVICE SDE0201WB
Part two of this four-part WBT course covers the 6.6L Duramax diesel engines including the characteristics and operation of glow plugs, and the components and operation of the fuel system’s supply side, high pressure side, return side, and injectors. The course also covers the diagnosis of the fuel system’s supply side, diagnosis and service of the fuel system’s return side, and how to program injection quality adjustment values. Upon completion of this course, technicians will be able to recall characteristics and service procedures of glow plugs, components, operation, and diagnosis of the supply side of the fuel system, components and operation of the high pressure side of the fuel system, characteristics and operation of the fuel system injectors, and components, operation, and diagnosis and service of the return side of the fuel system.
Languages: English

DIESEL ENGINE PERFORMANCE 3: DIESEL TURBOCHARGER AND AFTERTREATMENT SYSTEM SDE0301WB
Part three of this four-part WBT course covers conventional and variable nozzle turbochargers, the cooling system, the engine emission control system, and the engine exhaust aftertreatment system. It also details the selective catalytic reduction process and the diesel particulate regeneration process. Upon completion of this course, technicians will be able to recall operation and diagnosis of turbochargers, components and operation of the cooling system, characteristics of the engine emission control system, characteristics of the engine exhaust aftertreatment system, characteristics of the selective catalytic reduction process, and characteristics of the diesel particulate regeneration process.
Languages: English
DIESEL ENGINE PERFORMANCE 4: DEF AFTERTREATMENT SYSTEMS  S-EP08-86.01WBT
Part four of this four-part WBT course covers the new generation of diesel aftertreatment systems. The course will provide a general overview of the aftertreatment system as well as cover its operation. Technicians will be provided in-depth information on components, sensors, and the Diesel Exhaust Fluid (DEF) system. Upon completion of this course, technicians will be able to describe diesel aftertreatment system technology, identify characteristics of Diesel Exhaust Fluid (DEF), explain the operation of the aftertreatment system, recall the purpose of DEF fluid, and explain the DEF system operation.
Languages: English

DIESEL ENGINE INTRODUCTION  S-EP08-35.01WBT
This WBT course covers diesel engine theory, types of diesel engines, identification of diesel engines and basic operation. Upon completion of this course, technicians will be able to recall the theory and types of diesel engines and recall diesel engine identification and operation.
Languages: English

DIESEL MECHANICAL SYSTEM  S-EP08-36.01WBT
This WBT course will introduce you to diesel engine mechanical systems, including the cylinder block assembly, cylinder block, and valve train characteristics. Upon completion of this course, technicians will be able to recall the characteristics of the diesel cylinder block, rotating assembly, and types of flywheels and recall the characteristics of the cylinder head, in-block valve train, and overhead cam valve train.
Languages: English

DIESEL ENGINE SUBSYSTEMS  S-EP08-37.01WBT
This WBT course will cover the characteristics and operation of diesel cooling system, lubrication system, air induction system and turbocharger and start assist system. Upon completion of this course, technicians will be able to recall theory and types of fuel systems, recall characteristics and operation of lubrication system, recall characteristics and operation of cooling system, recall characteristics of air induction system and turbochargers, and recall characteristics and operation of start assist system.
Languages: English

DIESEL COMMON RAIL FUEL SYSTEM  S-EP08-38.01WBT
This course will describe the characteristics of supply and return systems and the operation of supply systems. This lesson will also explain the characteristics of high pressure systems and the operation of both the high pressure pump and injectors. Finally, this lesson will cover the characteristics of inputs, processors and outputs, and the electronic control modes of operation. After completing this course, you will be able to recall supply system characteristics recall supply system operation, recall return system characteristics, recall high pressure system characteristics, recall high pressure pump operation, recall injectors operation, recall electronic control modes of operation, recall inputs characteristics, recall processor characteristics, and recall outputs characteristics.
Languages: English

INTRODUCTION TO DIESEL EMISSIONS  S-EP08-39.01WBT
This course describes the various types of diesel emissions, emission standard requirements, impact of diesel fuel on emissions, and diesel emission control strategies. After completing this course, you will be able to recall the types of diesel emission systems, recall the impact of diesel fuel on components and emissions, and recall the diesel emission control strategy.
Languages: English

2.8L DURAMAX  S-EP08-84.01WBT
This WBT course presents a description of the 2.8L Duramax diesel engine. The course provides a description of the engine’s applications and specifications. Other topics are a comprehensive overview of components of the 2.8L diesel engine, and its aftertreatment system. Upon completion of this course, technicians will be able to identify applications of the 2.8L diesel engine, identify features of the 2.8L diesel engine, identify components of the 2.8L diesel engine, identify service procedures for the 2.8L diesel engine, and identify the aftertreatment system of the 2.8L diesel engine.
Languages: English

MEDIUM DUTY TRUCK OVERVIEW  S-EP08-87.01WBT
This WBT course is an overview of the new medium duty truck and covers the exterior features, HVAC, power and signal distribution, entertainment, body systems, safety and security, suspension, steering and brakes. Topics include specifications, options, operation, and procedures. Upon completion of this course, technicians will be able to describe the new / updated aspects of the specifications features, describe the new / updated aspects of the HVAC, power and signal, and drivers information and entertainment system, describe the new / updated aspects of the body systems, safety and security, and describe the new / updated aspects of the suspension, steering, brakes and maintenance.
Languages: English
A9: LIGHT DUTY DIESEL

MEDIUM DUTY TRUCK POWERTRAIN  S-EP08-88.01WBT
This WBT course presents an overview of the powertrain systems found on GM’s medium duty trucks. Topics cover the applicable medium duty diesel engines, the diesel exhaust treatment, and the driveline systems as well as service considerations. Upon completion of this course, technicians will be able to recognize the components of the engines in the medium duty truck, recognize the characteristics of the diesel exhaust treatment system in the medium duty truck, and recognize the driveline systems in the medium duty truck.
Languages: English

Instructor-Led Training

DURAMAX DIESEL OPERATION AND DIAGNOSIS  S-EP08-81.02ILT
This course covers the Duramax diesel engine evolution from 2001 to 2011, including the LB7, LLY, LBZ, LMM, LML, and LGH. An overview of the Duramax features and design changes for all engine applications are covered. Other topics of this course include the engine control management system, the fuel delivery system and the variable geometry turbocharger. Also highlighted are features of the aftertreatment system of the new Duramax engines: diesel oxidation catalyst; diesel exhaust fluid injection and mixer; selective catalyst reduction; diesel particulate filter and the exhaust cooler. Diagnosis and service procedures are included.
Languages: English

Seminar

NEXT GENERATION GM DIESEL ENGINES  SDE0101SM
This course prepares technicians to diagnose and service the new generation of diesel engines from General Motors, including the 1.6L offered in the Chevrolet Cruze, the 2.8L offered in the Chevrolet Colorado and GMC Canyon, and the 6.6L offered in the Chevrolet Silverado and GMC Sierra. Topics will include unique features, maintenance procedures, documented service concerns, and special service tools for each next generation diesel engine covered.
Languages: English

DURAMAX 6600 DIESEL ENGINE  S-EP08-30.01SEM
This 3 to 4 hour technician seminar will focus on unique features of the Duramax 6600 diesel engine. Engine design, lubrication, cooling, turbocharger, electric air heater, glow plug, common rail fuel and engine management systems are covered in detail. The seminar will focus on aspects of the common rail fuel system including injector testing & service, injector pump, fuel injection, control module testing and system service. Inputs and outputs as they relate to the Duramax system will also be covered. This seminar will also cover the new diesel particulate filter found on the 2007 LMM engine.
Languages: English

DIESEL TECHNOLOGY INSIGHTS  S-EP08-36.01SEM
The seminar will cover what’s new in light diesel cars and trucks. If you have not noticed, there is a new generation of common-rail diesel engines on the road today: cleaner, quieter and more powerful. Seminar topics include: updates to the 2011 and newer GM Duramax, the new Chevrolet Cruze Diesel, what is new in exhaust aftertreatment, as well as new sensors and diesel offerings from Ford, Chrysler and VW. Also discussed are safety, maintenance, diagnostics and service related to these modern diesel fuel and emission systems.
Languages: English

DIESEL EMISSIONS AND EXHAUST AFTERTREATMENT  S-EP08-37.01SEM
Modern diesel engines are subject to increasingly stringent emission regulations and monitoring requirements. This seminar 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 aftertreatment 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.
Languages: English
InShop Training

2007 DURAMAX 6600 DIESEL ENGINE UPDATE S-EP08-34.01SEM
This 1-hour InShop describes the technological enhancements that the Duramax 6600 diesel engine receives for the 2007 model year. Included will be a review of diesel emission regulations, fuel and engine oil requirements, and biodiesel fuel. A discussion regarding the diesel oxidation catalyst and the diesel particulate filter is also included.
Languages: English

DURAMAX 6600 DIESEL ENGINE FEATURES-2006 RPO LLY S-EP08-33.01SEM
This 1-hour InShop describes the technological enhancements that the Duramax 6600 diesel engine receives for the 2007 model year. Included will be a review of diesel emission regulations, fuel and engine oil requirements, and biodiesel fuel. A discussion regarding the diesel oxidation catalyst and the diesel particulate filter is also included.
Languages: English

DURAMAX 6600 DIESEL ENGINE FEATURES-RPO LLY S-EP08-32.01SEM
This 1-hour InShop describes the technological enhancements that the Duramax 6600 diesel engine receives for the 2007 model year. Included will be a review of diesel emission regulations, fuel and engine oil requirements, and biodiesel fuel. A discussion regarding the diesel oxidation catalyst and the diesel particulate filter is also included.
Languages: English

DURAMAX 6600 DIESEL ENGINE-2010/2011 LGH AND LML S-EP08-35.01SEM
This 1-hour InShop describes the technological enhancements that the Duramax 6600 diesel engine receives for the 2007 model year. Included will be a review of diesel emission regulations, fuel and engine oil requirements, and biodiesel fuel. A discussion regarding the diesel oxidation catalyst and the diesel particulate filter is also included.
Languages: English

DURAMAX 6600 DIESEL ENGINE-RPO LB7 S-EP08-31.01SEM
This 1-hour InShop describes the technological enhancements that the Duramax 6600 diesel engine receives for the 2007 model year. Included will be a review of diesel emission regulations, fuel and engine oil requirements, and biodiesel fuel. A discussion regarding the diesel oxidation catalyst and the diesel particulate filter is also included.
Languages: English

TechTube Videos

2.0 DIESEL TIMING BELT INSTALLATION S-EP08-03.01VID
This video demonstrates how to service the timing belt on the 2.0L diesel engine.
Languages: English

DEF QUALITY TEST S-EP08-16.01VID
This video shows how to perform the DEF quality test as directed by service information.
Languages: English

DEF CONTAMINANTS TEST S-EP08-17.01VID
This video shows how to perform a DEF contaminants test using a refractometer.
Languages: English
A recommended path for completing the Body Electrical and Communications curriculum is outlined below. To complete the training below and to search for and complete additional training, visit acdelcotraining.com.

**RECOMMENDED PATH**

**WBT**
- **SuperCruise**
  - SEL0102WB
- **Entertainment Systems 1:** GM Radios, Antennas and Speaker Concerns
  - S-EL06-19.02WBT
- **Entertainment Systems 2:** GM Center Stack Radios, MOST Systems, Bluetooth and USB Connectivity
  - S-EL06-20.05WBT
- **Entertainment Systems 3:** GM Navigation, Satellite Radios, Heads Up Display and Wireless Charging
  - S-EL06-21.03WBT
- **Vehicle Lighting and Access**
  - SEL0301SM
- **Body Controls & Safety Systems**
  - S-EL06-11.01SEM

**ILT**
- **Multiplexed Data Bus Networks**
  - S-EL06-05.01ILT
- **Global Electrical Operations and Testing**
  - SEL0301IL
- **Diagnosing Multiplexed Data Bus Networks**
  - S-EL06-74.01SEM

**SEM**
- **SRS and Safety Systems**
  - S-ST10-01.01SEM
- **Body Controls & Safety Systems**
  - S-EL06-11.01SEM

**Web-Based Training**

**SUPERCRUISE**

This WBT provides specific information on the technologies and operation of the new GM Super Cruise driver assistance system. Upon completing this course, participants will be able to identify the purpose of the Super Cruise system, identify the technologies and components present in the Super Cruise system, recall the operation of Super Cruise system, and identify the fail-safes present for the Super Cruise system.

Languages: English

**ENTERTAINMENT SYSTEMS 1:** GM Radios, Antennas and Speaker Concerns

Part one of this three part WBT is intended for technicians who will be servicing GM entertainment system components, including radios, antennas, and speakers; and servicing radio frequency interference concerns. Topics discussed include different types of radio waves and how they travel, the types of noise that affect radio reception; types of antennas, including fixed mast, glass mounted, and roof / trunk mounted, along with the procedures to test antenna reception. This course also discusses the procedures to diagnose radio speaker concerns, the procedures for isolating the cause of radio frequency interference, and the noise suppression devices to service radio frequency interference. Upon completion of this WBT technicians will be able to identify the theory and types of radio waves, identify the theory and types of radio antennas, identify the components and operation of, and the steps to diagnose and service radio speakers, and identify the theory, and steps to diagnose and service radio frequency interference.

Languages: English

**ENTERTAINMENT SYSTEMS 2:** GM Center Stack Radios, MOST Systems, Bluetooth and USB Connectivity

This course provides the fundamentals to service General Motors entertainment system components, including integrated center stack radios, the MOST® network, Bluetooth® connectivity, and rear seat entertainment systems. Topics discussed include the types and components of integrated center stack radios, and the types of and steps to diagnosing Universal Serial Bus (USB) connectivity. Additional topics include the available Bluetooth® features and functions, the steps to diagnose connectivity, the types of rear seat entertainment systems, and the characteristics and operation of rear seat audio controls.

Languages: English
**A10: BODY ELECTRICAL AND COMMUNICATIONS**

**ENTERTAINMENT SYSTEMS 3: GM NAVIGATION, SATELLITE RADIOS, HEADS UP DISPLAY AND WIRELESS CHARGING**
S-EL06-21.03WBT

This course provides a description of the navigation and satellite radio systems in GM vehicles. The description of the navigation system includes types of inputs, outputs, and diagnostic procedures. The characteristics of the satellite radio and antenna are also described. Additionally, the course covers mobile wireless charging and the head-up display.

Languages: English

**GM MOVEABLE ROOF AND SUNROOF SYSTEMS 1: OPERATION**
S-EL06-29.01WBT

Part one of this two part WBT course covers the types of moveable roof systems, hydraulic roof systems, soft top, and hard top systems. This course also covers the components, operation, and service of the moveable roof systems. Upon completion of this course technicians will be able to identify the components and operation for the types of moveable roof systems; identify the components, operation, and diagnostic and service procedures for hydraulic roof systems; identify operation and service procedures for the soft top roof systems; and identify components and operation for the hard top system.

Languages: English

**GM MOVEABLE ROOF AND SUNROOF SYSTEMS 2: DIAGNOSIS**
S-EL06-30.01WBT

Part two of this two part WBT course explains how to diagnose and service hard and soft top moveable roof systems. It also describes the operation of power sunroofs. Upon completion of this course component technicians will be able to diagnose and service the hard top and soft top systems; and recall the type, panoramic characteristics and operation, and systematic diagnostic process of power sunroofs.

Languages: English

**COMMUNICATION AND ENTERTAINMENT SYSTEMS**
S-EL06-65.01WBT

This course will introduce you to audio system, Bluetooth integration, and navigation system circuits. This course will also discuss the characteristics and operation of each of these circuits. After completing this course, you will be able to recall the characteristics and operation of navigation system circuits.

Languages: English

**VEHICLE NETWORKS**
S-EL06-66.01WBT

This course will introduce you to the characteristics and operation of multiplex circuits. This course will also discuss the types of network buses, and the operation of both the multiplex and optical bus networks. After completing this course, you will be able to recall the characteristics and operation of multiplex circuits, recall the types of network buses, and recall the operation of multiplex and optical buses.

Languages: English

**Instructor-Led Training**

**GLOBAL ELECTRICAL OPERATIONS AND TESTING**
SEL0301IL

This Instructor-led Training (ILT) course covers the properties of electricity, interpreting and using electrical schematics, advanced digital multimeter (DMM) usage, scan tool diagnosis tactics, and alternate test tool usage. Hands-on exercises provide opportunities for practicing skills, making measurements, interpreting test results and making diagnostic decisions.

Languages: English

**MULTIPLEXED DATA BUS NETWORKS**
S-EL06-05.01ILT

What do you do when the Scan Tool does not communicate? In this course, the technician will learn how networks function and how to diagnosis network problems when conventional methods don’t work. The focus will be on the diagnosis of serial data failure modes in multiplex data buses. Diagnostic techniques will be applied on vehicles to help technicians develop problem solving skills. Power moding, network protocols: CAN, LIN, GMLAN, and repair methods will be covered.

Languages: English
Seminar

VEHICLE LIGHTING AND ACCESS  SEL0301SM
This seminar covers vehicle lighting and access system component operation, diagnosis, testing and correct service practices. The discussion on vehicle lighting systems will include details on bulb monitoring, Pulse Width Modulated (PWM) lamp control, LED lighting, xenon lighting, dynamic headlight range and level control, adaptive forward lighting, laser lighting, and vehicle lighting system diagnostic strategies. Vehicle access system topics will include door lock, liftgate, and trunk release system operation and diagnostic strategies. Participants will discuss movable glass systems including power window system operation, and diagnostic strategies for door windows, back glass and sunroof systems.
Languages: English

BODY CONTROLS & SAFETY SYSTEMS  S-EL06-11.01SEM
What do you do when a customer brings you a vehicle with one of more of the body control or safety systems disabled or inoperative? The Body Control and Safety Systems course uses real world scenarios based on vehicles from several manufactures to focus on identifying and diagnosis of the various body control and safety systems.
Languages: English

SRS AND SAFETY SYSTEMS  S-ST10-01.01SEM
This three-hour seminar covers the operation and diagnostic procedures of current Supplemental Restraint Systems (SRS) and why they are needed. Course content includes SRS sub-systems and components found on current vehicles, their function(s) and interrelated systems, such as OnStar. This course also covers the SRS safety procedures to be followed while making repairs, safe operation of a vehicle post-accident, diagnostic procedures, service tips, and special tools.
Languages: English

DIAGNOSING MULTIPLEXED DATA BUS NETWORKS  S-EL06-74.01SEM
Diagnosing complex network system failures is a challenge even for experienced technicians. In this seminar, technicians will focus on diagnostic strategy to hone their problem solving skills for serial data failure modes in multiplex networks. Included network protocols: CAN, LIN, GMLAN, MOST®, and repair methods will be covered.
Languages: English
A recommended path for completing the Safety and Security curriculum is outlined below. To complete the training below and to search for and complete additional training, visit acdelcotraining.com.

### RECOMMENDED PATH

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### Simulation

**ACTIVE SAFETY SYSTEM AND SRS DIAGNOSTIC EXERCISE**  
S-ST10-01.01SIM  
This mobile ready DE is compatible with the following browsers: Apple Safari, Internet Explorer 10 & 11, Google Chrome & Mozilla Firefox. This interactive course covers how to service and verify the Supplemental Restraint System (SRS) and the active safety systems using a systematic procedure. Topics such as how to service an intermittent airbag warning lamp, service an airbag warning lamp that stays on, as well as service the Driver Assist System are included in this course as interactive exercises. Upon completion of this course, the participant will be able to identify the steps to diagnose, repair, and verify the SRS and the active safety systems in a vehicle and its components.  
Languages: English

### Web-Based Training

**STRUCTURAL ADHESIVE AND FASTENING APPLICATIONS**  
SCL0401WB  
In addition to covering structural adhesive, this course will aid in identifying self-piercing rivets, structural blind rivets, and flow drill screws, how each fastener works, and when to use the fasteners during a repair.  
Languages: English/French

**GM SAFETY SYSTEMS 1: OCCUPANT RESTRAINT SYSTEMS**  
S-FN00-03.02WBT  
Part one of this three-part WBT course is intended for technicians who will be servicing GM occupant restraint systems. Primary restraints are reviewed including seat belt systems, pretensioners, and child restraints. Supplemental restraints are also discussed including airbag systems, active head restraints, and knee bolsters. Topics include restraint system design, operation, diagnostics, servicing, and handling procedures.  
Languages: English/French
SAFETY AND SECURITY

GM SAFETY SYSTEMS 2: REAR VISION CAMERA, SIDE BLIND ZONE ALERT, AND PARK ASSIST
S-FN00-04.02WBT

Part two of this three-part WBT course covers the components, operation, diagnostic and service procedures for the following General Motors (GM) safety systems: the Rear Vision Camera (RVC) system, the parking assist system, the lane departure system, the Side Blind Zone Alert (SBZA) system, and the brake override system. Upon completion of this course, technicians will be able to identify the components, characteristics, operation, and diagnostic and service procedures of the Rear Vision Camera (RVC) system, identify the components, characteristics, operation, and diagnostic and service procedures of the parking assist system, identify the characteristics, components, operation, and diagnostic and service procedures of the lane departure system, identify the components, characteristics, operation, and diagnostic and service procedures of the Side Blind Zone Alert (SBZA) system, and identify the components, characteristics, and operation of the enhanced electronic pedal override system.

Languages: English/French

GM SAFETY SYSTEMS 3: REAR CROSS TRAFFIC ALERT, ADAPTIVE CRUISE, AUTOMATIC PARK
S-FN00-07.03WBT

Part three of this three-part WBT course covers the active safety control module components including operation and diagnosis. It also provides the characteristics of the rear cross-traffic alert system components and the full-speed adaptive cruise control operation. The course also identifies characteristics, operation, and diagnosis for the automatic collision preparation system. In addition, it covers the characteristics and steps of operation of the automatic park assist system. Upon completion of this course, technicians will be able to identify the components of the active safety control module, identify the service procedures for the front view camera module, identify three driver assistance safety systems, identify the operation of the automatic collision preparation system, and identify the operation of the automatic park assist system.

Languages: English/French

ENTRY AND SECURITY SYSTEMS
S-FN00-21.02WBT

This WBT course covers the characteristics, components, and operation of keyless entry and security systems, including content theft deterrent systems. This course also covers diagnostic strategies and service considerations. Upon completion of this course, technicians will be able to identify the characteristics, components, and operation of the content theft deterrent systems, and identify diagnostic strategies and service considerations for keyless entry and security systems.

Languages: English/French

ONSTAR SYSTEMS 1: GENERATIONS 6 THROUGH 9
S-ST10-04.01WBT

This WBT course provides a description of the OnStar systems including generations 6 through 9. The many features of OnStar are described. The course also provides detailed information about the OnStar components, as well as information on GPS and cellular technology. Upon completion of this course, technicians will be able to identify the various features of OnStar, identify the components of OnStar, and identify aspects and diagnostics of cellular and GPS technology.

Languages: English/French

ONSTAR SYSTEMS 2: GENERATION 10
S-ST10-05.01WBT

This WBT course provides a description of the generation 10 OnStar system. The characteristics of various features are described, including antennas and other components, Wi-Fi and aspects of connectivity, as well as warnings and diagnostics. Upon completion of this course, participants will be able to describe the characteristics of OnStar generation 10, identify the antennas and other components of OnStar, and describe OnStar generation 10 diagnostics and programming.

Languages: English/French

InShop Training

PEDESTRIAN SAFETY SYSTEMS
SCL0201IS

This 1-hour InShop covers Front Pedestrian Braking (FPB) and Pedestrian Impact Detection System (PIDS). The topics discussed will include the need for pedestrian safety systems, description and operation of these systems, and replacement and repair procedures.

Languages: English
**Web-Based Training**

**FASTENERS, SEALS AND GASKETS**
S-DS11-06.01WBT

This course will provide a fundamental understanding of the uses and characteristics of various fasteners, seals, and gaskets used on vehicles, including the appropriate fastener type for a specific automotive repair, the appropriate type of seal for a specific automotive use, the appropriate type of gasket for a specific automotive use, and the appropriate adhesive for a specific automotive use.

**Languages**: English

**SI OVERVIEW**
S-FN00-02.03WBT

This course covers the navigation of the Service Information (SI) website. It also covers search procedures, publication types, schematics, routine diagrams, and how to interpret schematic symbols.

**Languages**: English

**LUBRICATION INSPECTION AND MAINTENANCE**
S-FN00-22.02WBT

This course is an overview of the knowledge and skills involved in performing an oil change. It covers inspection of vehicle systems, oil change procedures, resetting the oil life monitor system, and selecting the correct grade and amount of oil to add to the engine.

**Languages**: English

**FUNDAMENTALS OF HYDRAULIC THEORY AND OPERATION**
S-FN00-26.01WBT

Hydraulics technology forms the core technology for many automotive systems, including brakes, steering, transmission, engine, and axles. Exploring and understanding hydraulic systems provides essential foundational knowledge of automotive systems. This WBT provides the general concepts, operation, and applicable components involved in the hydraulic systems of an automobile. Upon completion of this course, service technicians will be able to identify the ways that hydraulics are utilized in an automobile, recall Pascal and Pascal’s Law, identify hydraulics technology and fluid properties, and differentiate between the types of hydraulic systems, fluids, and components.

**Languages**: English

**Self Study Training**

**FLUIDS AND CHEMICALS SELF STUDY TRAINING**
SFN0901SF

This self study course covers the functions and attributes of fluids and chemicals to be aware of, and their proper use. Course topics include fluids and chemicals for the engine, air conditioning, transmission, brakes, and other vehicle maintenance needs.

**Languages**: English
FUNDAMENTALS

TechTube Videos

**PROPER TIRE INSPECTION**
This video demonstrates the proper technique for inspecting a tire. The inspection starts with checking the tire inflation, then measuring the tread depth. Wear patterns from improper inflation, incorrect alignment or out of balance are discussed. Inspection of the sidewall for damage, tread for foreign objects and cracked rubber are shown.

**Languages:** English

**CLUTCH STYLE LOCK CYLINDER**
This video shows the normal operation of the clutch style door lock cylinder that everyone should be aware of and how to access on some models.

**Languages:** English

TECHAssist

**SERVICE INFORMATION SEARCH**
This TECHAssist covers the Service Information search functions. Topics covered include descriptions of the basic and advanced search features, a demonstration of how to enable the AutoComplete feature in Internet Explorer 7 and 8. Technicians will also be able to practice searching for specific components using both the basic and advanced search functions. Upon completion of this TECHAssist technicians will be able to recall how to use Service Information basic and advanced search features to find documents and specific components.

**Languages:** English

Seminars

**KNOWLEDGE IS POWER**
This 3 to 4 hour seminar is intended to provide an introduction to vehicle service and safety issues for vehicle owners / students who may lack experience dealing with the vehicle service environment. The topics in this seminar will increase awareness of regular scheduled maintenance, recognizing vehicle problems, and safety concerns. After taking this seminar, students should have the information needed to identify when regular maintenance is necessary. This includes proper tire care, brake system issues, transmission service, frequency of oil changes, and many other relevant topics. Students will also learn how to recognize vehicle service needs including interpreting warning lights, checking fluids, and distinguishing between various brake noises. Extensive use of pass-around components and on-car demonstrations make this a truly, interactive hands on learning session. Students will be presented with the recommended steps for communicating vehicle issues to their technician, as well as steps for ensuring safety on the road to help keep their families protected. Travel tips for the various seasons will also be discussed.

**Languages:** English
Web-Based Training

TECH 2 FAMILIARIZATION
This course covers the Tech 2 components, functions, set up, and diagnostic procedures. It also covers different protocol communications, electrical architecture, recording failures, snapshot functions, and the updating process. Upon completion of this course, the participant will be able to: identify Tech 2 components, the protocols and electrical architecture identify how to connect the Tech 2 to the vehicle, describe how to diagnose a vehicle, and how to update the Tech 2, recall the snapshot functions and the Tech 2 WIN functions.
Languages: English

NOISE, VIBRATION AND HARSHNESS (NVH)
This course covers vibration theory and the operation of components that may cause abnormal noise or vibration concerns. It also covers diagnosis techniques, such as road tests, and test equipment used in diagnosing vibration concerns.
Languages: English

AUTOMOTIVE METERS
This course will provide an overview of the use of the meters used in automotive applications, including an overview of various meters, applications for various meters, and proper use and care of various meters. After completing this course, you will be able to identify the difference between digital and analog meters, the purpose of and proper usage procedures for each of the following Analog meter, Digital meter, Ammeter, Voltmeter, Ohmmeter, Tachometer, and Dwell meter.
Languages: English

AUTOMOTIVE TESTERS
This course will provide an overview of the use of the testers used in automotive applications, including an overview of various testers, applications for various testers, proper use and care of various testers. After completing this course, you will be able to identify the purpose and proper care of automotive testers, when to perform tests for the battery, starting and charging systems, the types of automotive testers, capacity and conductance testing for battery, starting and charging systems, the operation of automotive testers, and the purpose and operation of circuit testers.
Languages: English

PRECISION MEASURING TOOLS
This course will provide an explanation of the use of precision measuring tools used in automotive applications, including proper care and use of the precision measuring tools and standards of measurement. After completing this course, you will be able to identify measurement standards for precision measuring tools, the purpose of micrometers, micrometer usage procedures, the purpose of telescoping and small hole gauges, the procedures for using telescoping and small hole gauges, the purpose of Vernier calipers, the procedures for using Vernier calipers, the purpose of dial gauges, the procedures for using dial gauges, the purpose of feeler gauges, the procedures for using feeler gauges, the purpose of a straight edge, the procedures for using a straight edge.
Languages: English

DIAGNOSIS OF DTCS
This course provides an introduction to the skills and knowledge you need to use diagnostic trouble codes (DTCS) to repair concerns related to emissions and drivability on vehicles equipped with an On-Board Diagnostics engine management system. After completion of this course, you will be able to describe the purpose and history of On-Board Diagnostics (OBD) regulations, describe the structure and setting of diagnostic trouble codes (DTCs), describe how to retrieve and clear DTCs, and describe how to systematically diagnose powertrain and chassis DTCs.
Languages: English

TECH2WIN
This WBT course presents information about Tech2Win, which is a software application that simulates the operation of the Tech 2 scan tool on a computer. Topics include how to install and update the Tech2Win software, and a description of its operation and functionality, including the snapshot function.
Languages: English

DATA BUS DIAGNOSTIC TOOL
This course presents a description and introduction to the Data Bus Diagnostic Tool (DBDT). Topics include the DBDT’s major characteristics: software installation, main screen (window), Detected State tab, Measured Voltage tab, Message Monitor tab, and Error Messages.
Languages: English
INTRODUCTION TO THE DIGITAL STORAGE OSCILLOSCOPE  
S-DS11-16.01WBT
This course introduces the digital storage oscilloscope (DSO) as an important tool in diagnosing vehicle concerns that may otherwise require significant time or disassembly for testing. Topics covered include: key components and basic setup; terminology, display outputs, waveform fundamentals and parameters; and how to interpret display data.
Languages: English

GDS 2  
S-FN00-06.02WBT
This course consists of WBT and Hands-On components and is designed to provide the technician with the skills necessary to properly diagnose current and future vehicle platforms, using Global Diagnostic System 2 (GDS 2) and the Multiple Diagnostic Interface (MDI). Basic hardware requirements and networking concepts are addressed to aid technicians with installation, setup, update, and operation of both GDS 2 and MDI. Use of both tools during vehicle diagnostics including navigation, graphing, data display and DTC display are also covered.
Languages: English

MULTIPLE DIAGNOSTIC INTERFACE (MDI) FAMILIARIZATION  
S-FN00-20.02WBT
This WBT course covers common characteristics of the MDI including MDI Setup Software, MDI / On Vehicle operation, and the Service Programming System Procedure. Upon completion of this course technicians will be able to identify common characteristics of the MDI, identify MDI Setup Software, identify MDI / On Vehicle operation, and identify the Service Programming System Procedure.
Languages: English

MULTIPLE DIAGNOSTIC INTERFACE (MDI) 2  
S-FN00-24.01WBT
This course presents a description of the Multiple Diagnostic Interface (MDI) 2. Topics include the hardware and the software associated with the MDI 2, as well as the relevant setup, operation, and recovery procedures.
Languages: English

Seminars

BEYOND THE FOUR STROKES  
S-DS11-11.01SEM
What do you do when you have swapped plugs, injectors and coils and you still have the misfire? Beyond the four strokes course uses real world scenarios based on vehicles from several manufacturers to focus on engine mechanical related misfires diagnosis, SIDI engine service techniques and most recent engine sensor technology.
Languages: English

SCAN TOOLS  
S-DS11-14.01SEM
The Scan Tools seminar examines the features, output controls, special functions and data parameters of the Tech 2, GM Global Diagnostic System 2, Tech2Win and Snap-On Verus scan tools. The intent of this course is to present a straight forward comparison of the features, outputs controls, special functions and data parameters available on each scan tool rather than show current owners how to operate their scan tool. If you are curious about the differences between these scan tools, but do not have the time to do the research on your own, this course is for you.
Languages: English

REAL-WORLD SERVICE PROGRAMMING  
S-DS11-15.01SEM
This three-hour seminar will teach technicians the most current methods for programming new, or updating existing, electronic control modules in various manufacturers’ vehicles. This course looks at some of the tools available to the aftermarket for programming. The manufacturers’ websites that contain programming information will be discussed. After completing this course, technicians will be able to describe the tools and resources necessary for reprogramming electronic control modules.
Languages: English

EFFECTIVE USE OF DIAGNOSTIC RESOURCES  
S-DS11-16.01SEM
This three-hour seminar covers free and for-fee resources that technicians can access daily as needed in the diagnosis and repair of today’s vehicles. Resources include manufacturer, aftermarket, government and Internet-based service information. Course content includes location of and access to both manufacturer service information and aftermarket service information. Additionally, content covers the viability and reliability of repair-related Internet sites and blogs and their place in the scheme of today’s repair environment. Content also includes government-based, automotive-related websites as well as diagnostic procedures, service tips and special tools.
Languages: English
Instructor-Led Training

SERVICE PROGRAMMING
This Instructor-led Training (ILT) course will provide technicians the opportunity to learn and practice the process for service programming in the aftermarket auto repair facility. GM-specific hardware and procedures will be discussed, including TECH 2, MDI, supported third-party J2534 interface devices and the process of performing GM service programming. Non-GM vehicle manufacturer information will also be covered, as well as common questions about service programming, such as: when is service programming needed, what is the difference between module setup and service programming, how to find calibrations, how to ensure successful programming and how to recover from programming failures or errors. Exercises and demonstrations of service programming and module setup will also be performed.
Languages: English

SCOPES, CIRCUITS & SENSORS
The ability to quickly and accurately solve complex electrical signal faults is a necessity for advanced diagnostic technicians. Using Oscilloscopes, technicians will learn to identify specific signal types and distinguish between good signals and specific failures. On-vehicle exercises will cover signals from sensor categories such as: Speed, Position, Proximity, Acceleration, Force, Flow, Temperature, Pressure, Gas and Concentration.
Languages: English

TechTube Videos

PROGRAMMING KEY FOBS
This video will discuss some of the different methods to add, learn, or program a remote keyless entry system transmitter to a GM vehicle.
Languages: English

USING A DIGITAL MULTI METER TO CHECK AMPERAGE
This video discusses what amperage is and the proper techniques for measuring amperage. The Fluke 87 digital multi-meter is used to demonstrate the procedure. The video also demonstrates how to check the fuses on the meter and the proper settings for the meter. The video concludes by demonstrating the correct arrangement of leads to measure amperage or current flow on a live circuit.
Languages: English

TEST LIGHTS, IS THERE A DIFFERENCE?
This video will help you determine the proper test light to use for various electrical diagnostic tests and why this is important. OHMS law is utilized to calculate the working resistance and current draw of a test light.
Languages: English

HOW TO PERFORM A PARASITIC LOAD TEST
This video demonstrates the proper parasitic load test procedure to identify unwanted loads on the battery.
Languages: English

EXP-800 CAPACITANCE TESTING BATTERY - BATTERY TEST
This video demonstrates how to test a battery using the EXP 800 tester.
Languages: English

EXP-800 CAPACITANCE TESTING SYSTEM - SYSTEM TEST
This video demonstrates how to perform a system test (Battery, Starter, Alternator) using the EXP 800 tester.
Languages: English

FLUKE MIN / MAX FEATURE
This video demonstrates using the Min / Max feature of the Fluke 87 series digital multi meter for intermittent concerns, through an on car scenario and mock up circuits. Min / Max can be used while measuring voltage, amperage or resistance.
Languages: English
AGM BATTERY TESTING AND CHARGING  
This video describes the construction, testing and charging of Absorbed Glass Mat (AGM) batteries.  
Languages: English

DATA BUS DIAGNOSTIC TOOL HELPS DIAGNOSE BATTERY DRAINS  
This video demonstrates the Data Bus Diagnostic Tool Message Monitor function to help diagnose battery drain concerns by monitoring the data line to see what modules wake up.  
Languages: English
**Business Fundamentals**

The business fundamentals web-based training (WBT) program features 25 self-paced non-technical courses that focus on effectively running your service center. The courses cover a wide range of topics, including information on how to increase customer satisfaction, how to effectively manage your business finances, and how to recruit and manage your employees.

The program is intended to help business owners improve their shop’s efficiency and profitability.

The available business fundamental courses are listed below:

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
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<td>Managing Customer Objections</td>
<td>B-CC30-01.01WBT</td>
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<tr>
<td>Customer Follow-up &amp; Going Forward</td>
<td>B-CC30-02.01WBT</td>
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<tr>
<td>Verbal &amp; Non Verbal Communication</td>
<td>B-CC30-03.01WBT</td>
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<td>Conflict Resolution</td>
<td>B-CC30-04.01WBT</td>
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<tr>
<td>Marketing &amp; Advertising</td>
<td>B-CC60-01.01WBT</td>
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<tr>
<td>Building Customer Loyalty</td>
<td>B-CC60-03.01WBT</td>
</tr>
<tr>
<td>Introduction to Financial Management</td>
<td>B-FM32-01.01WBT</td>
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<tr>
<td>Introduction to Forecasting and Planning</td>
<td>B-FM32-02.01WBT</td>
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<tr>
<td>Profit Margins</td>
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<tr>
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<tr>
<td>Enhancing Profitability</td>
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<td>Parts Inventory</td>
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<tr>
<td>Parts Facilities</td>
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<td>Introduction to Selling Service</td>
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<td>Preparing for Successful Service</td>
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<td>Increasing Service Bay Sales</td>
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<tr>
<td>Closing the Sale &amp; Delivery</td>
<td>B-SC31-06.01WBT</td>
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<tr>
<td>Scheduling Basics</td>
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<td>Service Facilities</td>
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<td>Talent Acquisition</td>
<td>B-SC31-09.01WBT</td>
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<tr>
<td>Managing Employees</td>
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<tr>
<td>Training Employees</td>
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<tr>
<td>Business Analysis</td>
<td>B-SC31-12.01WBT</td>
</tr>
<tr>
<td>Expanding Your Customer Base</td>
<td>B-CC60-02.01WBT</td>
</tr>
</tbody>
</table>
SERVICE CONSULTANT SKILLS

ACDELCO BATTERY SELLING STRATEGIES  
BSC0101WB
In this course, you will learn why it's important for a battery test to be done on every vehicle that enters your shop. This course also reviews ACDelco Battery features, their benefits / advantages over the leading competition and how to overcome customer objections as needed to secure the sale.
Languages: English

FEATURES AND BENEFITS  
B-SC31-11.01WBT
In this self-paced web-based training course, participants will learn the importance of knowing and understanding the competitive advantages their ISC offers customers over other vehicle service providers. They will be able to identify features of their service center and relate them as benefits that meet customer needs.
Languages: English

CUSTOMER CIRCUMSTANCES  
B-SC31-12.01WBT
In this self-paced web-based training course, participants will learn the importance of understanding the circumstances of each customer service visit and to look beyond the condition of the vehicle and consider the customer. Topics covered include how to take into account characteristics such as personality type, age and gender when consulting with each individual customer.
Languages: English

CUSTOMER NEEDS AND EXPECTATIONS  
B-SC31-13.01WBT
In this self-paced web-based training course, participants will learn the importance of using effective questioning techniques to identify and understand the needs and expectations of their customers. Topics covered include using open and closed questions, understanding and overcoming different types of objections, handling irate customers and creating a strong bond with customers.
Languages: English

PROFESSIONAL SKILLS ASSESSMENT  
B-SC31-21.01WBT
In this self-paced web-based training course, participants will learn the importance of demonstrating professionalism in an automotive service business. Topics include effective communication, problem solving and consulting skills that are needed for success.
Languages: English

STRESS MANAGEMENT  
B-SC31-22.01WBT
In this self-paced web-based training course, participants will learn the role personal attitude plays in communication and how stress can be a barrier to communication. Topics include understanding the types of stress, the causes of stress and how to recognize and control personal stress.
Languages: English

TIME MANAGEMENT  
B-SC31-23.01WBT
In this self-paced web-based training course, participants will learn the role time management plays in their ability to provide customers with a satisfying service experience. Topics will include how to manage time more effectively in order to accomplish more within the time available as well as how to assess and change personal time management behaviors.
Languages: English

TEAM BUILDING  
B-SC31-31.01WBT
In this self-paced web-based training course, participants will learn the importance of communicating with other service center employees. Topics include using techniques that help develop an effective team atmosphere that is focused on customer satisfaction.
Languages: English

PROBLEM SOLVING  
B-SC31-32.01WBT
In this self-paced web-based training course, participants will learn about ways to resolve conflicts. Topics include managing workflow issues and “crunch time”, dealing with phone interruptions and what to do when things don’t work out.
Languages: English

CONTINUOUS IMPROVEMENT  
B-SC31-33.01WBT
In this self-paced web-based training course, participants will learn how to develop and implement an action plan for change. Topics include identifying areas for improvement, presenting ideas to management and developing action plans for change.
Languages: English
Customer Satisfaction Process

**REPAIR ORDER PREPARATION**
B-CC30-31.01WBT
In this self-paced web-based training course, participants will learn the importance of accurate repair orders and invoices in developing customer trust and maintaining service center credibility. Topics include how to write repair orders that clearly communicate customer needs and expectations and create a well-understood service agreement with customers.
Languages: English

**DISPATCHING**
B-CC30-32.01WBT
In this self-paced web-based training course, participants will learn the importance of a well-managed system for dispatching work to the shop. Topics include ensuring accurate repair times, the relationship between dispatching and keeping time promises to customers and making the best use of service center resources.
Languages: English

**FINAL VEHICLE INSPECTION**
B-CC30-33.01WBT
In this self-paced web-based training course, participants will learn how performing a quality check after the repair builds customer trust and loyalty by verifying the quality of repairs. Topics include using a final inspection checklist, determining a process for performing quality checks and how quality checks minimize comebacks.
Languages: English

**TRAFFIC FLOW**
B-CC30-11.01WBT
In this self-paced web-based training course, participants will review how various customer retention activities can be used to increase traffic flow through the service center, focusing on the strengths and weaknesses of the activities. Topics include identifying different types of customer retention activities including thank you and reminder mailings and customer satisfaction surveys.
Languages: English

**DATA MINING**
B-CC30-12.01WBT
In this self-paced web-based training course, participants will learn how a database of basic, relevant information can provide the service center with the ability to identify, communicate with and retain loyal customers. Topics include storing the right information to facilitate ongoing relationships with clients and measure the effectiveness of marketing activities. There are also techniques for designing, using and maintaining a customer database that will allow your service center to build a loyal client base.
Languages: English

**BUSINESS IMPACT**
B-CC30-13.01WBT
When selecting customer retention activities, you need to consider the service center’s business goals as well as the needs and preferences of your customers. This course focuses on the business and customer information to consider when selecting activities to increase customer loyalty. Topics include identifying your target customers and creating a plan.
Languages: English

**VEHICLE DROP-OFF**
B-CC30-21.01WBT
In this self-paced web-based training course, participants will learn the value of a prompt customer greeting in developing a good customer relationship. Topics include the benefits of a reservation process, using an inspection form during consultation, the importance of spending time effectively with each customer and establishing processes that allow enough time to ensure you understand each customer’s needs and expectations.
Languages: English

**VEHICLE DELIVERY**
B-CC30-22.01WBT
In this self-paced web-based training course, participants will learn the importance of using progress checks and a vehicle delivery process to set the stage for moving the customer relationship beyond the current service visit. Topics include monitoring repair progress, communicating delays or the need for additional work to the customer, answering customer questions, building value in the service visit and minimizing customer wait time.
Languages: English

**FOLLOW-UP**
B-CC30-23.01WBT
In this self-paced web-based training course, participants will learn the value of a repair follow-up process in moving the customer relationship toward future service. Topics include follow-up calls, measuring customer satisfaction and resolving specific problems discovered during a follow-up call.
Languages: English
BUSINESS TRAINING

Financial Management

**FACILITY MANAGEMENT**
In this self-paced web-based training course, participants will learn the impact of facility utilization and capacity on service center profitability. Topics include evaluating causes of low facility utilization and what actions to take to improve utilization.
Languages: English

**COMPUTER SYSTEMS**
In this self-paced web-based training course, participants will learn the impact on service center workflow of using an integrated shop management computer system such as WISE on customer satisfaction and profits. Topics covered include WISE Shop Management System features and benefits.
Languages: English

**PERSONNEL MANAGEMENT**
In this self-paced web-based training course, participants will learn the impact of technician efficiency and shop productivity on service center profit. Topics include defining technician efficiency and shop productivity, factors that affect productivity and efficiency and how to implement actions to meet productivity and efficiency goals.
Languages: English

**GROSS PROFIT AND PRICING**
In this self-paced web-based training course, participants will learn techniques for improving gross profit through pricing. Topics include defining and calculating gross profit, calculating selling price, margin vs. mark-up, competitive pricing and the impact of price cutting factors that impact gross profit and sources of additional profit.
Languages: English

**CONTROLLING EXPENSES**
In this self-paced web-based training course, participants will identify controllable expenses and calculate them as a percent of total labor sales. Topics include methods for controlling and monitoring key manageable expenses such as theft.
Languages: English

**CAPITAL MANAGEMENT**
In this self-paced web-based training course, participants will review the information shown on the balance sheet of the financial statement. Topics include assets, liabilities, net worth, financial health measurements and methods to track progress.
Languages: English

**BUSINESS DEVELOPMENT**
In this self-paced web-based training course, participants will learn and understand the benefits of a business plan and the business planning process in meeting their business goals and objectives.
Languages: English

**MARKETING**
In this self-paced web-based training course, participants will learn techniques for marketing the service center. Topics include knowing the competition, service menus and traffic building methods.
Languages: English

**ANALYSIS**
In this self-paced web-based training course, participants will learn an analysis process that will identify desirable and undesirable areas of service center financial performance. Topics include calculating key performance indicators.
Languages: English