EXPERT TECH TRAINING

COURSE CATALOG

2026

TRITECH

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TRITECH ETT is taught by real-world industry experts and operates independently of OEM training programs or certifications. ETT is designed for any repair facility working on a diverse range of makes and models.

TRITECH | ETT

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GENERAL INFORMATION

TRITECH's Expert Technician Training (ETT) program provides technicians comprehensive training on leading brand systems and components. We balance theory with hands-on practice, enabling technicians to diagnose and troubleshoot proficiently. Each 4-day course is taught by certified Trainers, boasting extensive OEM-certified expertise.

LOCATION
TRITECH Training Center
310 Stolte Road, New Braunfels, TX, 78130

CLASS TIMES
4-day course: Tuesday - Thursday, 8 am-5 pm and Friday, 8 am-1 pm (Refer to our online Course Calendar for available dates)

PARTICIPANT CAPACITY
- Engine/Electrical - 12 enrollees maximum (10 minimum)
- Dana - 10 enrollees maximum (8 minimum)
- Service Advisor/Service Manager - 14 enrollees maximum (8 minimum)

INCLUDED
- 4-night hotel stay (see accommodations details below)
- Lunch daily
- Eye and ear protection, safety masks, and gloves
- Diagnostic laptop for the course duration (bringing your own is recommended)

PREREQUISITES
Refer to individual courses for specific requirements.

SAFETY
Technicians must come equipped with the necessary Personal Protective Equipment (PPE), including safety shoes and long pants. Adherence to all safety guidelines and precautions is essential. Be cautious of risks related to high-pressure fuel, high temperatures, and rotating components. Ensure you look out for the safety of your peers and immediately address or report any liquid spills.

REGISTRATION
Enroll in our courses via our website. Each student must finalize registration by completing the online Enrollment Form. We accept registrations up to the class start date based on availability. Please review the Cancellation Policy. For dedicated classes at your location, contact us at ett@tritechent.com or 830.743.9720.

ACCOMMODATIONS
Fairfield by Marriott: 1465 IH-35 North, New Braunfels, TX 78130

TRAVEL AND TRANSPORTATION
The ETT Training Center is 27 miles from the San Antonio Airport (SAT) and 47 miles from the Austin Airport (AUS). It's recommended that participants arrive on the Monday before class starts and schedule departures for 3 p.m. or later on Friday. Transportation between the airport and the hotel is your responsibility.

CONTACT INFORMATION
tritechent.com
ett@tritechent.com
830.743.9720

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CATERPILLAR LEGACY C15, C13, 3406E, ACERT
ENGINE DIAGNOSTICS

PREREQUISITE: Completion of the Caterpillar Questionnaire prior to the start of the course.

COURSE DESCRIPTION
This training immerses students in the theory and hands-on operation of CATERPILLAR Legacy Power engines, focusing on the On-Hwy C15, C13, and 3406E engine families, including Bridge and ACERT. Participants will gain a thorough understanding of Electronic Engine Control Systems, Mechanical Systems, and various other components and systems. By the end of this course, technicians will be equipped to demonstrate expertise in using CAT ET and SIS 2.0, diagnose, troubleshoot, and execute proper repair procedures for the mentioned engines.

COURSE CONTENT
(Note: Topics are comprehensive and not limited to the list below.)

- **Engine Foundations & Evolution:** History from early CAT engines to ACERT. Key engine specifications: Bore, Stroke, Compression Ratio, etc. Identification methods for engine models, arrangement numbers, and more.
- **CAT SIS 2.0 Online:** Parts and service information lookup. Access to troubleshooting guides, manuals, and bulletins. Introduction to essential service tools. Recommended maintenance intervals.
- **Mastering CAT ET (Electronic Technician):** Using CAT ET for diagnostics and repairs. Features including gauges, fault codes, and calibration. Adjusting ECM parameters and clearing fault codes.
- **Electronic Control Systems Deep Dive:** Comparative analysis of C15, C13, 3406E, and ACERT engines. Detailed study of electronic engine components. Circuit diagrams, electrical schematics, and calibration procedures.
- **ACERT Technology & Aftertreatment:** ACERT's history, functionality, and benefits. Exhaust aftertreatment and turbos. Maintenance and adjustments unique to ACERT engines.
- **Engine Components & Systems Overview:** Both internal and external components. Causes, signs, and consequences of engine wear.
- **Cooling Systems:** The significance and functionality of cooling systems. Key components and common failures.
- **Lubrication Systems:** Understanding the essential role and functionality. Components and common system wear.
- **Fuel Systems:** Importance, functionality, and components. Diagnosis of common system failures.
- **Air Systems:** System significance and components. Typical system failures and their causes.
- **Skills Assessment:** A comprehensive 25-question test. Evaluation of hands-on skills during classroom activities. Emphasis on active class participation. Certificate awarded upon class completion.

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CATERPILLAR LEGACY C15, C13, 3406E, ACERT
TROUBLESHOOTING, INSPECTION, REBUILD & OVERHAUL

PREREQUISITE: Completion of the Caterpillar Questionnaire prior to the start of the course.

COURSE DESCRIPTION
Explore the intricacies of the C15, C13, 3406E, and ACERT engines with this comprehensive training. This course aims to give participants the skills essential for organizing, overhauling, inspecting, repairing, maintaining, or replacing all engine components. The curriculum ensures technicians can efficiently manage tasks from gear train maintenance to injection pump inspections by the end.

COURSE CONTENT
(Note: Topics are comprehensive and not limited to the list below.)

- **CAT SIS Online Navigation:** Parts and Service Information retrieval. Engine number location when tags are basent. Deep dive into Troubleshooting, Fault Codes, Repair Manuals, and Wiring Diagrams. Exploration of TRP's, Campaigns, Service Bulletins, and other vital information. Identification and utilization of essential service tools.
- **Mastery of CAT Electronic Technician (ET):** Introduction to CAT ET's functionalities and capabilities. Diagnostic and repair strategies using CAT ET. ECM alteration procedures and data storage. Efficient subscription management and guidance on seeking additional resources.
- **Engine Overhaul & Component Insights:** Comprehensive engine examination and teardown techniques. Location and functionality of specific engine and aftertreatment components. Gear train configuration and setup. Procedures for cylinder head removal and installation. In-depth discussions on head bolt stretch, cylinder liner measurements, and differences in liners. Configuring gear train timing and understanding engine brakes. Valve, engine brake, and injector adjustments.
- **Fuel System Expertise:** Grasp on common rail and injection pump mechanisms. Identification and function breakdown of CAT engine fuel system components. Disassembly and assembly protocols for fuel pumps. Hands-on fuel system diagnostics. Injector inspection, removal, and repair techniques.
- **Comprehensive System Checks:**
  Diagnostic, troubleshooting, and repair strategies for:
  - Aftertreatment Systems
  - Cooling Systems
  - CAC Systems
  - Oil Systems
  - Air Systems
  - Fuel Systems
  - Exhaust Systems
- **Skills Assessment:**
  - A comprehensive 20-question evaluation
  - Hands-on performance review during class activities
  - Emphasis on procedure adherence, clean care recommendations, and active participation
  - Certificate of class completion

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CUMMINS ISX15, X15
ENGINE & AFTERTREATMENT DIAGNOSTICS

PREREQUISITE: Completion of the Cummins questionnaire prior to the start of the course.

COURSE DESCRIPTION
This course offers theoretical and hands-on instruction for troubleshooting the Engine Control System, Aftertreatment System, and Fuel System. It covers the proper repair procedures for the Cummins ISX15 and X15. By the end, technicians will be proficient with QuickServe, Insite, and the various troubleshooting methods associated with the ISX15 and X15 engines.

COURSE CONTENT
(Note: Topics are comprehensive and not limited to the list below.)

- **Navigate QuickServe Online:** Parts and Service Information retrieval. Locating Engine numbers without engine tags. Access to Repair Manuals, Wiring Diagrams, TRPs, Campaigns, and Service Bulletins. Necessary Service Tools for repairs.
- **Navigating Cummins Insite:** Proper usage and its capabilities. Engine diagnostics & repair. ECM adjustments and template saving. Subscription management and levels. Access to further information/help.
- **Visual and Read Functions:** Monitoring Data, Logging, and Trip Information. Engine Data Plate insights. Understanding Fault Codes, Circuit Diagrams, Schematics, and more. Valve/Engine Brake/Injector adjustments
- **Write Functions:** Resetting Trip Information and Clearing Fault Codes. Adjusting Features and Parameters. Work Order creation, ECM code calibrations, and more
- **Aftertreatment:** Understanding exhaust flow and Aftertreatment Systems components. Maintenance guidelines for the SCR System. Component identification and function related to the SCR System. Diagnostics using Insite and other special tooling. Removal and installation procedures.
- **Fuel Systems:** Importance, functionality, and components. Diagnosis of common system failures.
- **Electronic Control Systems:** Differentiating between all ISX15 and X15 engine models. Interpretation of wiring diagrams. Recognizing control circuit variances. ECM Diagnostic Tests and 96-pin C circuits. InterpCetation of wiring diagrams. Recognizing control circuit variances. ECM Diagnostic Tests and 96-pin Connector repair.onnector repair.
- **Skills Assessment:**
  - A comprehensive 25-question test
  - Hands-on skills evaluation
  - Certificate of class completion

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CUMMINS ISX15, X15
TROUBLESHOOTING, INSPECTION, REBUILD & OVERHAUL

PREREQUISITE: Completion of the Cummins questionnaire prior to the start of the course.

COURSE DESCRIPTION
This course equips participants with essential skills to handle, overhaul, inspect, repair, and maintain every component of the Cummins ISX15 and X15. Upon completion, technicians will confidently tackle maintenance tasks and repairs related to gear trains, valve sets, injector sets, injection pumps, and all mechanical aspects of the Cummins ISX15 and X15 engine families.

COURSE CONTENT
(Note: Topics are comprehensive and not limited to the list below.)

- **Navigate QuickServe Online:**
  - Retrieving Parts and Service Information
  - Identifying Engine numbers when tags are missing
  - Troubleshooting, Fault Codes, and Manuals access
  - Essential Service Tools for overhauls and repairs
- **Navigate Cummins Insite:**
  - Proper Insite usage and functionalities
  - Engine diagnostics and repairs using Insite
  - ECM modifications and information management
  - Understanding Subscription Management and additional resources
- **Overhaul and Component Management:**
  - Complete engine tear-down and inspection
  - Recognizing and working with different front-gear train configurations
  - Cylinder head management and understanding head bolt dynamics
  - Power cylinder assessment after EGR cooler failures
  - Mastering gear train timing and understanding engine brakes
- **Fuel System Mastery:**
  - Exploring Common rail and injection pumps
  - Identifying and understanding fuel system components
  - Fuel flow comprehension and system diagnostics
  - Injector management, from removal and installation to repairs
- **Comprehensive System Handling:**
  - Expertise in Aftertreatment, Cooling, CAC, Oil, Air, Fuel, and Exhaust Systems
- **Skills Assessment:**
  - A comprehensive 25-question test
  - Practical skills evaluation
  - Certificate of class completion

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CUMMINS MEDIUM DUTY ISB, ISC, ISL
ENGINE & AFTERTREATMENT DIAGNOSTICS

PREREQUISITE: Completion of the Cummins questionnaire prior to the start of the course.

COURSE DESCRIPTION
This course provides in-depth theoretical and hands-on training for troubleshooting the Engine Control, Aftertreatment, and Fuel Systems. It emphasizes proper repair procedures for the Cummins ISB, ISC, and ISL engines. On completion, technicians will be adept in using QuickServe, Insite, and other troubleshooting tools specific to the ISB, ISC, and ISL engines.

COURSE CONTENT
(Note: Topics are comprehensive and not limited to the list below.)

- **Navigate QuickServe Online:** Retrieving Parts and Service Information. Identifying Engine numbers when tags are absent. Accessing Repair Manuals, Wiring Diagrams, TRP's, Campaigns, and more. Essential Service Tools for effective repairs.
- **Navigate Cummins Insite:** Mastery over Insite usage and its capabilities. Engine diagnostics & repair methodologies. ECM data management and modifications. Accessing further resources and help through Insite
- **Visual and Read Functions:** Monitoring Data, Logging, and Trip Information. Understanding Engine Data Plates and Fault Codes. Delving into Circuit Diagrams, Schematics, and more. Adjusting Valve/Engine Brake/Injectors as needed.
- **Write Functions:** Resetting Trip Information, Clearing Fault Codes. Adjusting Engine Features, Parameters, and more. Managing ECM Images and Work Orders. Conducting specialized diagnostic tests and ECM calibrations.
- **Aftertreatment Mastery:** Grasping Exhaust flow dynamics and component functions. Understanding SCR System maintenance and purpose. Diagnostics using Insite and other specialized tools. Aftertreatment System removal, installation, and diagnostics
- **Fuel Systems:** Importance, functionality, and components. Diagnosis of common system failures.
- **Electronic Control Systems Insight:** Differentiating between ISB/ISC/ISL circuits. Interpreting wiring diagrams effectively. Understanding ECM Diagnostic Tests and component repairs.
- **Skills Assessment:**
  - A comprehensive 25-question test
  - Practical skills evaluation
  - Awarding of a course completion certificate

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DANA DRIVELINE MASTER CLASS
AXLE & DRIVELINE DIAGNOSTICS & REBUILD

PREREQUISITE
Completion of the Driveline to Success classes at Dana Training Academy.

COURSE DESCRIPTION
The ETT-DANA course provides technicians with an in-depth overview of drivetrain fundamentals. Attendees will grasp the essentials of successful repair, be equipped to diagnose system failures and benefit from a balanced learning approach: 30% theory and 70% hands-on experience. Over four days, the curriculum spans from measuring pinion angles to constructing an entire driveshaft, ensuring comprehensive mastery.

COURSE CONTENT
(Note: Topics are comprehensive and not limited to the list below.)

- **Pre-Testing:**
  - Familiarity with nomenclature
  - Identification and theoretical understanding
- **Parts Search/Cross Reference**
- **Complete Drivetrain Overview:**
  - Anatomy of the drivetrain
  - Identification and essential drivetrain concepts
- **Gearing:**
  - Understanding gearing concepts
  - Measurement and installation techniques
- **Fatigue Analysis:**
  - Detailed study of gearing, U-Joints, bearings, and driveshafts
- **U-Joint Master Class:**
  - Theory behind U-Joints
  - Measurement techniques and servicing insights
- **Skills Assessment:**
  - A comprehensive 25-question test
  - Practical skills evaluation
  - Awarding of a course completion certificate

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DETROIT DD13, DD15, DD16
ENGINE & AFTERTREATMENT DIAGNOSTICS

PREREQUISITE
Completion of the Detroit Diesel questionnaire prior to the start of the course.

COURSE DESCRIPTION
This course provides theoretical and practical training on the DETROIT DD 13-16 Engine family. By its conclusion, technicians will possess a robust understanding of the DETROIT DDDL diagnostic tool, the DTNA system, and be able to troubleshoot and repair procedures for various elements of the DETROIT DD13-16 engine.

COURSE CONTENT
(Note: Topics are comprehensive and not limited to the list below.)

- **Navigate DETROIT DDDL Diagnostic Tool and DTNA:** Mastery of DDDL and DTNA with insights into their capabilities and graphs. Diagnostics and repairs via DDDL. ECM modifications and data management. Understanding subscription nuances for customer and fleet versions. Accessing additional resources and support through DTNA.
- **Visual and Read Functions:** Data Monitoring, Logging, and Trip Information. Insights into Engine Data Plates and Fault Codes. Circuit, Wiring Diagrams, and comprehensive troubleshooting methods. Recognizing and using special Detroit tools.
- **Write Functions:** Trip Information and Fault Code management. Engine Features and Parameter adjustments. Work Order creation and ECM Image management. Specialized diagnostic tests and ECM calibrations.
- **Aftertreatment Mastery:** Understanding exhaust flow and Aftertreatment components. Comprehensive insights into the ONE BOX System. Diagnostics using specialized tools and equipment. Aftertreatment System removal, installation, and diagnostics.
- **Fuel Systems:** Importance, functionality, and components. Diagnosis of common system failures.
- **Electronic Control Systems Insight:** Differentiating between various sensors and circuits. Wiring diagrams interpretation for DETROIT DD. Delving into control circuit variances. ECM Diagnostic Tests and connector repairs. Wiring and harness repairs using DETROIT-specific kits.
- **Skills Assessment:**
  - A comprehensive 25-question test
  - Hands-on skills evaluation
  - Awarding of a course completion certificate

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DETROIT DD13, DD15, DD16
TROUBLESHOOTING, INSPECTION, REBUILD & OVERHAUL

PREREQUISITE
Completion of the Detroit Diesel questionnaire prior to the start of the course.

COURSE DESCRIPTION
Designed with precision, this course equips participants with essential skills for managing, overhauling, inspecting, and repairing all components of the DETROIT DD13-16 engine. Upon completion, technicians will be trained to conduct maintenance tasks and repairs on the gear train, valve sets, injector sets, and more, ensuring the DETROIT DD13-16 engine operates at its peak.

COURSE CONTENT
(Note: Topics are comprehensive and not limited to the list below.)

- **Navigate DTNA Online:**
  - Retrieving Parts and Service Information
  - Identifying Engine numbers when tags are missing
  - Troubleshooting, accessing Manuals, Fault Codes, and more
  - Recognizing essential Service Tools for overhauls and repairs
- **Navigate Detroit DDDL:**
  - Proficiency with DDDL's functionalities
  - Engine diagnostics and repairs via DDDL
  - ECM modifications and data management
  - Subscription Management insights and accessing additional resources
- **Overhaul and Component Mastery:**
  - Comprehensive engine teardown and inspection
  - Identifying and managing Engine and Aftertreatment Components
  - Mastery over gear train configurations
  - Cylinder head management and understanding of head bolt dynamics
  - Power cylinder assessments, liner protrusion measurements, and more
  - Expertise in gear train timing for DD13-16 engines and understanding engine brakes
- **Fuel System Insights:**
  - Exploring common rail and injection pumps
  - Recognizing and understanding DD13-16 fuel system components
  - Fuel flow comprehension and system diagnostics
  - Injector management, from removal to repair
- **Comprehensive System Handling:**
  - Expertise in Aftertreatment, Cooling, CAC, Oil, Air, Fuel, and Exhaust Systems
- **Skills Assessment**
  - A comprehensive 25-question test
  - Practical skills evaluation
  - Awarding of a course completion certificate

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ELECTRICAL I
ESSENTIAL ELECTRICAL SYSTEM DIAGNOSTICS

PREREQUISITE
Taking the Fluke Digital Multimeter Basics course through Fluke Online Courses is recommended to improve understanding of Multimeter use before the course begins.

COURSE DESCRIPTION
Tailored for technicians who have successfully completed the online Digital Multimeter Basics Certification class, this course examines DC Theory and the Diagnostics of various electrical components on commercial vehicles. Key focus areas include DC Circuit Definitions, Diagnostic Essentials, Fault Definitions, Schematic Reading, Circuit Building, and more. Post-training, technicians will have hands-on experience with a 30-fault exercise, ensuring a robust grasp over testing relays, circuits, schematic interpretation, CAN Bus systems, and more. You must bring your Digital Multimeter.

COURSE CONTENT
(Note: Topics are comprehensive and not limited to the list below.)

- **DC Circuit Definition and Analysis:**
  - Circuit components and types
  - Expected voltage variations
- **Essentials of DC Diagnostics:**
  - Diagnostic objectives
  - The psychological aspect of correct diagnostics
  - Shop challenges
  - Understanding fault definitions, starter voltage drop, and battery draws
- **Schematic Reading:**
  - How to acquire and interpret drawings
  - Rules for schematic reading and interpretation
  - Familiarity with schematic symbols
- **Circuit Components:**
  - Wiring and conductors
  - Circuit protection dynamics
  - Deep dive into switches, relays, solenoids, diodes, and motors
- **Meter Reading:**
  - Functions and utilization of meters
  - Voltmeter special measurements and maintenance
  - Using LOADpro Voltmeter Leads
- **Electronic Systems:**
  - Exploring inputs and outputs
  - Understanding CAN, networking, sensors, and diagnostics
- **Circuit Building:**
  - Building three circuits on a board
  - Hands-on experience with a 30-fault test

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ELECTRICAL II
ADVANCED ELECTRICAL SYSTEM DIAGNOSTICS

PREREQUISITE
Before stepping into this advanced arena, technicians should either:
- Have successfully completed TRITECH's Electrical Diagnostics I class.

OR

Be well-versed in:
- Deciphering and interpreting wiring schematics.
- Skillful usage of a digital multimeter.
- A foundational understanding of oscilloscope functionalities and its software.
- Proven expertise in basic electrical system diagnostic techniques.

COURSE DESCRIPTION
Gain a deeper understanding of the world of electrical diagnostics with this advanced-level course. Designed exclusively for seasoned technicians, the Electrical Diagnostics II class focuses on the intricate techniques of computer-controlled system diagnostics. Our comprehensive curriculum encompasses multi-OEM-specific vehicle configurations, emphasizing ABS, Body, and CAN Network systems. Further enrich your skill set with hands-on waveform analysis, oscilloscope diagnostics, and data interpretation via DVOM and scan tools. This is your gateway to mastering every facet of modern-day circuit diagnostics.

COURSE CONTENT
- **Wiring Diagrams Mastery**
  - Reading and interpreting complex electrical wiring diagrams.
  - Pinpointing troubleshooting zones efficiently.
- **Advanced Diagnostics**
  - Differentiating between electrical and mechanical faults seamlessly.
  - Harnessing sensor simulation for insightful diagnostic techniques.
  - Extracting raw data using diverse test equipment to unearth root causes.
- **Scan Tool Proficiency**
  - Deciphering and acting upon scan tool data outputs.
  - Oscilloscope-assisted diagnostics for pinpointing signal and component issues.
- **Modern Communication and Control**
  - Diagnosing and rectifying J1939-based communication and computer-controlled circuitry hitches.
  - Comprehensive understanding of HD-OBD system operations and diagnostics.
- **Skills Assessment**
  - Upon successful course completion, technicians will be well-equipped to:
    - Effortlessly read and interpret electrical diagrams.
    - Pinpoint whether an issue is mechanical or electrical in nature.
    - Decode scan tool data to initiate the appropriate actions.
    - Diagnose and mend communication circuitries and related issues.
    - And much more, establishing them as the go-to experts for electrical diagnostics.
  - Rigorous hands-on tests and practical evaluations.
  - Certificate of class completion for successful candidates.

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INTERNATIONAL DT466 & MAXXFORCE DT466/11/13
ENGINE & AFTERTREATMENT DIAGNOSTICS

PREREQUISITE
Completion of the International questionnaire prior to the start of the course.

COURSE DESCRIPTION
This course provides theoretical and hands-on training in troubleshooting Engine Control Systems, Aftertreatment Systems, Fuel Systems, and repair procedures for International engine families. Technicians will gain proficiency in using International diagnostics tools and performing necessary diagnostics and repairs.

COURSE CONTENT
(Note: Topics are comprehensive and not limited to the list below.)

- **Navigate International Diagnostic Tools**
  - Proper use of NED, DLB, and HeRo for engine diagnostics and repair
  - Parameter adjustments and ECM information management
  - Subscription management for customer and fleet versions
  - Accessing additional information and support
- **Visual and Read Functions**
  - Data Monitoring, Logging, and Trip Information
  - Fault Code analysis and troubleshooting
  - Circuit and Wiring Diagrams interpretation
  - Valve, engine brake, and injector adjustments
  - Use of special International tools
- **Write Functions**
  - Fault Code clearing, Trip resets, and ECM calibrations
  - Work Order and ECM Image creation and management
  - Diagnostic and performance tests
- **Aftertreatment Mastery**
  - Exhaust flow and SCR components functions
  - Maintenance guidelines and fault code analysis
  - Diagnostic procedures with special tools
  - System removal, installation, and repairs
- **Electronic Control Systems Insight**
  - Sensor differentiation, Wiring Diagram interpretation, and diagnostics
  - Control circuit variations and diagnostic tests
  - Multi-pin connector and harness repairs using correct kits
- **Skills Assessment**
  - Comprehensive 25-question test
  - Hands-on skills evaluation
  - Awarding of a course completion certificate

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MACK MP7-MP10
ENGINE & AFTERTREATMENT DIAGNOSTICS

PREREQUISITE
Completion of the MACK questionnaire prior to the start of the course.

COURSE DESCRIPTION
This course provides theoretical and hands-on training in troubleshooting Engine Control Systems, Aftertreatment Systems, Fuel Systems, and Electronic Systems for MACK MP7-MP10 engines. Technicians will learn to utilize MACK's Premium Tech Tool (PTT) and IMPACT system effectively, gaining confidence in performing necessary diagnostics and repairs.

COURSE CONTENT
(Note: Topics are comprehensive and not limited to the list below.)

- **Navigate MACK Diagnostic Tools**
  - Proper use of PTT - Premium Tech Tool for engine diagnostics and repair
  - Parameter changes, ECM information management, and data logging
  - Understanding subscription levels and managing IMPACT resources
  - Accessing technical support and additional resources
- **Visual and Read Functions**
  - Data Monitoring, Logging, and Trip Information
  - Fault Code analysis and troubleshooting
  - Circuit and Wiring Diagrams interpretation for diagnostics
  - Valve, engine brake, and injector adjustments
  - Use of special International tools
- **Write Functions**
  - Fault Code clearing and resetting Trip Information
  - Adjusting engine features and parameters
  - Creating and managing Work Orders and ECM Images
  - Performing ECM calibrations and specialized diagnostic tests
- **Aftertreatment Systems**
  - Exhaust flow dynamics and SCR system functions
  - Maintenance procedures and fault code resolution
  - Diagnostic tools and techniques for system components
  - System removal, installation, and repairs
- **Electronic Control Systems Insight**
  - Sensor differentiation, Wiring Diagram interpretation, and diagnostics
  - Control circuit variations and diagnostic tests
  - Multi-pin connector and harness repairs using correct kits
- **Skills Assessment**
  - Comprehensive 25-question test
  - Hands-on skills evaluation
  - Awarding of a course completion certificate

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PACCAR MX11, MX13
ENGINE & AFTERTREATMENT DIAGNOSTICS

PREREQUISITE: Completion of the PACCAR questionnaire prior to the start of the course.

COURSE DESCRIPTION
This course imparts theoretical knowledge and practical expertise in troubleshooting the Engine Control, Aftertreatment, and Fuel Systems specific to the PACCAR MX Engine family. Upon completion, technicians will be proficient with the PACCAR DAVIE diagnostic tool, comprehending fault codes, and executing troubleshooting and repair tasks associated with the PACCAR MX engine.

COURSE CONTENT
(Note: Topics are comprehensive and not limited to the list below.)

- **Navigate PACCAR Davie4 Diagnostic Tool and Eportal:** Mastery over Davie4 and Eportal's proper use and capabilities. Diagnostics and repairs using Davie4. ECM management and modifications. Subscription management nuances for customer and fleet versions. Accessing further resources and help.
- **Visual and Read Functions:** Monitoring Data, Logging, and Trip Information. Understanding Engine Data Plates and Fault Code dynamics. Insight into Circuit and Wiring Diagrams. Comprehensive troubleshooting steps and repair methodologies. Specialized PACCAR MX tools needed for various tasks.
- **Write Functions:** Management of Trip Information and Fault Codes. Adjusting Engine Features, Parameters, and more. Work Orders and ECM Image management. Specialized diagnostic tests and ECM calibrations.
- **Aftertreatment Mastery:** Grasping exhaust flow dynamics and component functionalities. Comprehensive understanding of the SCR System. Diagnostics using specialized tools. Procedures for Aftertreatment System installation and removal. Deep dive into Aftertreatment diagnostics and repairs.
- **Fuel Systems:** Importance, functionality, and components. Diagnosis of common system failures.
- **Electronic Control Systems Insight:**
  - Differentiating between sensors and circuits
  - Effective interpretation of PACCAR MX wiring diagrams
  - Insights into control circuit variations
  - ECM Diagnostic Tests and connector repairs
  - Wiring and harness repairs using PACCAR MX kits and tools
- **Skills Assessment:**
  - A comprehensive 25-question test
  - Hands-on skills evaluation
  - Awarding of a course completion certificate

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PACCAR MX13
TROUBLESHOOTING, INSPECTION, REBUILD & OVERHAUL

PREREQUISITE: Completion of the PACCAR questionnaire prior to the start of the course.

COURSE DESCRIPTION
This four-day course equips technicians with the skills to overhaul, inspect, repair, maintain, and replace all components of the PACCAR MX13 EPA13-17 engines. Participants will gain in-depth knowledge of engine systems and practical expertise in diagnostics, teardown, and rebuild procedures.

COURSE CONTENT
(Note: Topics are comprehensive and not limited to the list below.)

- **Navigate PACCAR Davie4 Diagnostic Tool and Eportal**
  - Mastery over Davie4 and Eportal's proper use and capabilities
  - Diagnostics and repairs using Davie4
  - ECM management and modifications
  - Subscription management nuances for customer and fleet versions
  - Accessing further resources and help.
- **Overhaul and Component Mastery**
  - Engine teardown, inspection, and reassembly
  - Identify and manage engine components, including fracture main caps and gear train configurations
  - Perform gear train setup and timing
  - Cylinder head removal, installation, and bolt stretch explanation
  - Cylinder liner inspection, measurement, and proper installation
  - Understand PACCAR MX13 engine brake types and adjustment procedures
  - Perform valve, engine brake, and injector adjustments
- **Fuel System Insights:**
  - **Understand common rail and injection pump components**
  - **Describe the function and flow of fuel systems**
  - **Perform unit pump assembly and diagnostics**
  - **Inspect, repair, and replace injectors and injector sleeves**
- **Comprehensive System Handling:** Troubleshoot and repair Aftertreatment, Cooling, CAC, Oil, Air, Fuel, and Exhaust Systems
- **Skills Assessment:**
  - A comprehensive 20-question test
  - Hands-on skills evaluation
  - Adherence to Clean Care recommendations and procedures
  - Awarding of a course completion certificate
  - Additional class materials provided on a USB drive

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PARTS MANAGER

INVENTORY CONTROL, CUSTOMER SERVICE, AND TEAM MANAGEMENT

PREREQUISITE

Completion of Parts Manager homework prior to the start of the course. Homework will be emailed once enrollment is processed.

COURSE DESCRIPTION

This Parts Manager training program provides new and experienced Parts Managers with the knowledge and tools required to run a successful commercial vehicle, heavy duty, medium duty, trailer, or off-highway equipment parts department. The course emphasizes industry standards and the skills needed to achieve departmental goals, including key metrics, inventory control, and staffing strategies. The training is led by seasoned professionals with deep expertise in both dealer and aftermarket parts operations.

COURSE CONTENT

(Note: Topics are comprehensive and not limited to the list below.)

- **Perceptions, Descriptions, and Expectations**
  - Understand the multi-faceted role of a Parts Manager
  - Responsibilities and skills required for success in the industry
  - Aligning perceptions with job descriptions and expectations from supervisors and teams
- **Learning to Become a Great Parts Manager**
  - Leadership essentials for Parts Managers
  - Leveraging personality traits to build a successful team
  - Strategies for effective interaction with employees and other departments
  - Time and resource management tools to avoid fatigue and optimize performance
- **Building Your Parts Team**
  - Defining key department roles and their responsibilities
  - Managing individual team members' needs and growth
  - Fostering exceptional customer service and telephone skills
  - Recruitment and motivation strategies to optimize staffing
- **Departmental Financial Goals and Key Performance Metrics**
  - Core financial practices applicable across industries
  - Understanding financial reports, budgets and performance goals
  - Mastering sales margins, purchasing efficiency, inventory control, and product returns
  - Addressing challenges like dirty cores, scrap allocations, equipment needs, and more
- **Revenue Generation**
  - Identifying and supporting different customer types
  - Driving success through front counter and phone room sales
  - Managing outside sales and supporting service department needs
  - Utilizing tools like marketing, online ordering, and cross-referencing to grow parts sales
  - Exploring non-OEM parts and market-specific opportunities
- **Skills Assessment:** 5-10 question tests after each module. Hands-on evaluation during classroom activities. Adherence to procedures and recommendations. Awarding of a course completion certificate.

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SERVICE ADVISOR

CUSTOMER SERVICE, PRODUCTIVITY, PROFITABILITY & COMMUNICATION

PREREQUISITE

Completion of Service Advisor homework prior to the start of the course. Homework will be emailed once enrollment is processed.

COURSE DESCRIPTION

This training is tailored for Service Advisors to deepen their understanding of their role in driving customer satisfaction, ensuring Service Department success, and augmenting the company's profitability. The course unfolds across ten meticulously curated modules, complete with study guides and hands-on activities, all presented over a 4-day period with seasoned service personnel.

COURSE CONTENT

(Note: Topics are comprehensive and not limited to the list below.)

- **Service Processes:** Understand customer interactions' influence on service sales and satisfaction. Techniques to identify, improve, and develop impactful processes.
- **Reception:** Mastering customer greetings. Importance of a positive personal impression. Essential questions to and/or customer satisfaction.
- **Phone Etiquette and Appointments:** Grasping proper phone manners. Techniques for effective work scheduling. Using appointments to balance workload and optimize shop output.
- **Repair Order Creation:** Explore the RO creation process. Understanding the Service Advisors' role. Embracing the 3 C's and the significance of Technician narratives.
- **Triage & Initial Diagnosis:** Appreciate the influence of Triage on information accuracy and speed. Strategies for efficient dispatching, technician assignment, and parts procurement.
- **Estimating - Building and Estimate**: Familiarize with the Estimating process. Define roles for effective quotation creation.
- **Customer Approval, Dispatching & Ordering Parts:** Importance of customer consent. Navigating the Dispatching process. Timing strategies for parts ordering.
- **Repair Order Flow & Work in Process (WIP):** Monitoring strategies for WIP. The essence of the Work Order flow process.
- **Completing the Repair & Quality Control Checks:** Understand the completion phase. Comprehensive RO information consolidation. Ensuring the reconciliation of all components.
- **Delivery & Customer Satisfaction:** Mastering the concluding steps of the process. Execution of a final visual inspection. Presenting the concluding invoice for settlement.

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SERVICE MANAGER

SUCCESSFUL TECHNIQUES, TEAM BUILDING, PERFORMANCE METRIC & REVENUE GENERATION

PREREQUISITE

Completion of Service Manager homework prior to the start of the course. Homework will be emailed once enrollment is processed.

COURSE DESCRIPTION

This Service Manager training equips managers to align with both the overt expectations and unspoken demands of the industry. Dive deep into self-awareness, explore your unique personality traits, and learn how to excel in fostering working relationships, mastering key performance metrics, and driving revenue. The training is anchored with a comprehensive, hands-on study guide and final action plan from our seasoned and expert service professionals.

COURSE CONTENT

(Note: Topics are comprehensive and not limited to the list below.)

- **Industry Expectations & Management Styles:**
  - A comprehensive grasp of Service Manager roles and responsibilities
  - Insight into management styles: pros, cons, and effectiveness metrics
  - Defining a high-performing Service Manager
- **Becoming an Exemplary Service Manager:**
  - Self-assessment: strengths, weaknesses, and management techniques
  - Comparing and contrasting management styles
  - Efficient time and energy allocation strategies
- **Cultivating a Stellar Service Team:**
  - Overcoming barriers to a cohesive team
  - Fostering meaningful relationships with employees
  - Implementing compensation and training strategies for retention and growth
- **Understanding Key Metrics & Financials:**
  - Deciphering essential financials: Budgets, Profit & Loss, Absorption
  - Setting and monitoring performance goals
  - Grasping the Relevance of Key Performance Indicators
- **Driving Revenue & Departmental Sales:**
  - Scope and intricacies of Service Department sales
  - Understanding pricing structures, tooling, and facility capabilities
  - Role of Service Managers in boosting sales, customer satisfaction, and employee loyalty

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TECH 101
FUNDAMENTALS OF HEAVY-DUTY TRUCK SYSTEMS

COURSE DESCRIPTION
The Diesel Technician 101 course offers technicians early in their careers a comprehensive overview of heavy-duty truck systems and industry and safety standards. Technicians will gain a basic understanding of the operations, maintenance, and safety measures of various makes/models truck systems including engine, aftertreatment, transmission, drive axle, brakes/ABS, basic electrical and diagnostic software functions. Additionally, this class offers insight into what makes a technician successful in today's shop environment.

COURSE CONTENT
(Note: Topics are comprehensive and not limited to the list below.)

- **Safety and Professional Foundations:**
  - Safety overview and industry best practices
  - Understanding the 3 C's and writing an effective job story
  - Insight into key traits of successful technicians
- **Engine Systems:**
  - Diesel engine identification and history
  - Evolution of EGR and aftertreatment systems
  - Operation and components of cooling, lubrication, and fuel systems
  - Aftertreatment overview - understanding exhaust flow and components
- **Drivetrain Systems**
  - Drive axle overview - model identification and maintenance
  - Transmission overview - component operation, identification, and maintenance
  - Clutch adjustment
  - Driveline overview - identification and maintenance
  - 5th wheel overview - identification, maintenance, and adjustment
- **Air and Brake Systems:**
  - Air systems - theory of operation and component overview
  - Brakes and ABS - theory, operation, and maintenance fundamentals
- **Electrical Systems:**
  - Basic electrical theory and circuit troubleshooting
  - Battery and starter testing
  - Proper use of DVOMs and LoadPro tools
- **Skills Assessment:**
  - A comprehensive 25-question test
  - Hands-on skills evaluation
  - Awarding of a course completion certificate

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