

# Technical Training

Engines and  
Equipment

## Who Should Attend These Courses?

- Skill Level - 20 or Higher Maintainers (Sergeants and above)
- Logistics Assistance Representatives (LARs)
- Field Service Representatives (FSRs)
- Training Instructors
- Technical Inspectors

## Contact

Customized courses are available for your specific needs and equipment – your location or ours. For pricing at your location or to sign-up for courses listed on the back of this handout, contact Caterpillar Defense at [Cat\\_Defense\\_Training@cat.com](mailto:Cat_Defense_Training@cat.com).



### On-site Technical Training

#### Tactical Vehicle/CE/MHE ACERT™ Advanced Engine Maintenance\*

**40 hr/5 Day Training Class | \$16,710 per Class | 10 Student Maximum**

This advanced course will provide theory and maintenance training for the On/Off Highway Tactical Vehicle and the Combat Engineer/Material Handling Equipment (CE/MHE) Engines consisting of:

- Identify features of the C7/C9/C13/C15 ACERT™ engines
- The study of the mechanical system functionality and operation
- Complete study of fuel systems
- The limits of serviceability
- Troubleshooting with ECMs
- Calibration of ECMs
- Critical adjustments of the engines
- Study electrical schematics
- The use of Military ET

**Upon completion of this course, students will be able to:**

- Identify C7/C9/C13/C15 ACERT™ engine features
- Explain mechanical system functionality and operation
- Describe fuel system function
- Define limits of serviceability
- Explain ECM functions and calibration steps
- Adjust engines in line with service literature guidelines
- Explain engine electrical schematics
- Perform electronic diagnostics and troubleshooting on a running engine using Cat® Electronic Technician

#### Advanced Maintenance Training for Construction Equipment\*

**40 hr/5 Day Training Class | \$16,710 per Class | 10 Student Maximum**

This course is for service personnel who understand the principles of machine system operation, diagnostic equipment and procedures for testing and adjusting. This course will provide theory and hands-on training for one machine: Caterpillar 279D, D6K, D7R Dozer, 966H Loader, DEUCE, 621G Scraper or 120M Motor Grader, consisting of:

- Identify major machine components
- The use of on-board diagnostics
- Complete study of hydraulic and electrical schematics
- Systems operations

- Troubleshooting with ECMs
- Calibration of ECMs
- Critical machine adjustments
- The use of Military ET

**Upon completion of this course, students will be able to:**

- Trace the flow of oil through hydraulic systems
- Test and adjust hydraulic pressures
- Troubleshoot hydraulic and electrical systems
- Explain ECM functions and calibration steps
- Demonstrate the use of Military ET

#### Electronic Technician Training\*

**24 hr/3 Day Training Class | \$11,122 per Class | 10 Student Maximum**

This course will provide theory, troubleshooting and hands-on training of Military Electronic Technician and Troubleshooting using Electrical Schematics.

This course will consist of:

- Displaying all status parameters
- How to view active event and diagnostic codes
- Troubleshooting diagnostic codes using Military ET
- How to clear logged event and diagnostic codes
- How to flash program an ECM using WinFlash
- Manipulate the configuration of the ECM
- Recording machine information
- Retrieving machine totals
- Performing diagnostic tests and calibrations
- Troubleshooting systems with ECMs
- How to connect and use Communication Adapter Kits II and 3
- How to create a Product Status Report
- How to troubleshoot using electrical schematics

**Objective:**

- Explain ECM functions and calibration steps
- Demonstrate the use of Military ET
- Demonstrate the use of all status parameters
- Correctly view and clear logged event and diagnostic codes
- Flash program an ECM using WinFlash
- Manipulate the configuration of the ECM
- Demonstrate how to record machine information
- Demonstrate how to retrieve machine totals
- Perform diagnostic tests and calibrations
- Troubleshoot engine and machined systems with ECMs
- Demonstrate the use of communication adapters
- Demonstrate how to create a Product Status Report
- Troubleshoot electrical systems using schematics

### Texarkana College

#### Tactical Vehicle/CE/MHE ACERT™ Advanced Engine Maintenance\*

**5 Day Training Class | \$1,650 per Student | Class times are from 0800 to 1630**

This advanced course will provide theory and maintenance training for the On/Off Highway Tactical Vehicle and the Combat Engineer/Material Handling Equipment (CE/MHE) Engines consisting of:

- Identify features of the C7/C9/C13/C15/C18 ACERT™ engines
- The study of the mechanical system functionality and operation
- Complete study of fuel systems
- The limits of serviceability
- Troubleshooting with ECMs
- Calibration of ECMs
- Critical adjustments of the engines
- Study electrical schematics
- The use of Military ET

**Upon completion of this course, students will be able to:**

- Identify C7/C9/C13/C15/C18 ACERT™ engine features
- Explain mechanical system functionality and operation
- Describe fuel system function
- Define limits of serviceability
- Explain ECM functions and calibration steps
- Adjust engines in line with service literature guidelines
- Explain engine electrical schematics
- Perform electronic diagnostics and troubleshooting on a running engine using Cat® Electronic Technician

**All Advanced Engine Courses** are taught at Texarkana College, 15 James Carlow Drive, New Boston, TX.

#### 2020 Schedule:

Contact Caterpillar Defense for available dates.

#### Registration Information:

Payment is required to hold the attendee's seat in the class. Fees can be paid by VISA or MasterCard. Course fee includes student manuals, working lab materials, lunch each day, refreshments throughout the course of the day, plus transportation to and from the hotel to class.

Expenses such as airfare, hotel and evening meals are the responsibility of individual students. Attendees are responsible for canceling their classroom space with Caterpillar. Please do so immediately as there may be individuals on a waiting list for the course. Attendees are responsible for canceling their hotel reservations directly with the hotel.