

PRESENTED BY

**Carolina**



# CUSTOMER TECHNICAL TRAINING

2025 CATALOG

HELPING BUILD COMMUNITIES SAFELY, ON-TIME AND ON-BUDGET.



REVISED: NOV. 4, 2024

## TRAINING

We understand that well-trained technicians can significantly increase the value and return on investment of your fleet. As your trusted partner in success, Carolina Cat offers service training classes to develop the skills and knowledge of your technicians. These classes are designed to increase the uptime and profitability of your equipment. The development plan is strategically created to ensure that the classes are conducted in a logical order, with each class building upon the other. Upon successful completion of the program, each trainee will emerge as a highly trained and skilled technician equipped with the knowledge and hands-on experience needed to excel in their field.



## CAROLINA CAT – SUGGESTED CURRICULUM

(Recommended in the following order)

Class 1 - SIS 2.0

Class 2 - Caterpillar Electronic Technician (ET)

Class 3 - Electronics

Class 4 - Hydraulics

Class 5 - Principles of A/C

Class 6 - Introduction to Tier 4 Final\*

Class 7 - Tier 4 Final Troubleshooting\*

Class 8 - Introduction to Applied Failure Analysis

Class 9 - Advanced Troubleshooting\*

\*See class description for prerequisites

# CLASS DESCRIPTIONS

## SIS 2.0 (SERVICE INFORMATION SYSTEMS)

**Class Length: 1 Day | Start Time: 8:00 a.m. | End Time: 4:00 p.m. | Cost: Contact for Pricing**

**Seats: 8 (limit 2 per customer) \*See Cancellation Policy on p.7**

### CLASS DESCRIPTION

This course is a foundation-level class that covers navigation of the Caterpillar SIS 2.0 (Service Information System) website.

### LEARNING OUTCOMES

Upon completion of this class, participants will be able to:

- Locate parts information for Cat engines and machines
- Locate service information for Cat engines and machines
- Locate specifications for Cat engines and machines
- Locate technical information for Cat engines and machines
- Locate disassemble/assemble instructions for Cat engines and machines
- Locate electrical and hydraulic schematics for Cat engines and machines

*NOTE: It is required that participants bring a laptop to class and have a valid CWS login.*

## ET (ELECTRONIC TECHNICIAN)

**Class Length: 1 Day | Start Time: 8:00 a.m. | End Time: 4:00 p.m. | Cost: Contact for Pricing**

**Seats: 8 (limit 2 per customer) \*See Cancellation Policy on p.7**

### CLASS DESCRIPTION

This course is a foundation-level class designed to help customer technicians learn to utilize Cat E.T.

### LEARNING OUTCOMES

Upon completion of this class, participants will be able to:

- Update to the latest version of Cat E.T.
- Edit personal preference settings within Cat E.T.
- Determine the capabilities of Cat E.T.
- Navigate Cat E.T. to run diagnostic tests, check fault codes, download ECM info, record and view data logs during a hands-on exercise with a running engine

*NOTE: It is required that participants bring a laptop to class loaded with E.T.*

# ELECTRONICS

**Class Length: 2 Day | Start Time: 8:00 a.m. | End Time: 4:00 p.m. | Cost: Contact for Pricing**

**Seats: 8 (limit 2 per customer) \*See Cancellation Policy on p.7**

## **CLASS DESCRIPTION**

This course is a foundation-level class designed to introduce service technicians to electrical fundamentals and circuit testing basics.

## **LEARNING OUTCOMES**

Upon completion of this class, participants will be able to:

- Define volts, ohms, amps, and demonstrate an understanding of electrical fundamentals
- Use a Digital Multi-meter to test voltage, resistance, and amperage
- List the components of a circuit and describe the differences between series and series parallel circuits
- Navigate and locate technical information on Cat electrical schematics
- Analyze and troubleshoot starting and charging systems
- Demonstrate competency during a hands-on exercise with a running engine

*NOTE: It is recommended that participants bring a Digital Multimeter to class.*

# HYDRAULICS

**Class Length: 2 Day | Start Time: 8:00 a.m. | End Time: 4:00 p.m. | Cost: Contact for Pricing**

**Seats: 8 (limit 2 per customer) \*See Cancellation Policy on p.7**

## **CLASS DESCRIPTION**

This course is a foundation-level class designed to introduce service technicians to hydraulic fundamentals and circuit testing basics.

## **LEARNING OUTCOMES**

Upon completion of this class, participants will be able to:

- Describe fluid principles
- Identify the components of hydraulic tanks, pumps, motors, valves, and cylinders
- Describe the different types of hydraulic pumps, motors, valves, and cylinders
- Utilize different hydraulic test equipment and tooling to test hydraulic systems
- Navigate and locate technical information on Cat hydraulic schematics
- Identify the different symbols used in hydraulic schematics
- Demonstrate competency during a hands-on exercise with a live hydraulic system



# PRINCIPLES OF AIR CONDITIONING

**Class Length: 2 Day | Start Time: 8:00 a.m. | End Time: 4:00 p.m. | Cost: Contact for Pricing**

**Seats: 8 (limit 2 per customer) \*See Cancellation Policy on p.7**

## **CLASS DESCRIPTION**

This course is a foundational level class that covers the principles of air conditioning systems used on all types of vehicles and equipment.

## **LEARNING OUTCOMES**

Upon completion of this class, participants will be able to:

- List the different components used in A/C systems
- Describe the operation of A/C components and systems
- Perform a visual inspection and performance check on A/C systems
- Recover, evacuate, and charge A/C systems using different types of tooling
- Obtain a Section 609 certification to legally repair A/C systems

*NOTE: It is recommended that participants bring any personal A/C tooling to class.*

# INTRODUCTION TO TIER 4 FINAL EMISSIONS

**Class Length: 2 Day | Start Time: 8:00 a.m. | End Time: 4:00 p.m. | Cost: Contact for Pricing**

**Seats: 8 (limit 2 per customer) \*See Cancellation Policy on p.7**

## **CLASS DESCRIPTION**

This course is a foundation-level class designed to introduce service technicians to Tier 4 final emissions systems and components found on Cat engines.

## **LEARNING OUTCOMES**

Upon completion of this class, participants will be able to:

- Locate and identify the components of the NOx Reduction System
- Locate and identify the components of the Cat Regeneration System
- Locate and identify the components of the Selective Catalytic Reduction system
- Describe the different strategies used on Cat Tier 4 Final engines
- List the triggers for active regeneration
- Explain emissions related inducements, engine warnings, and power derates
- List the safety concerns, cleanliness, and storage requirements for Diesel Exhaust Fluid
- Test Diesel Exhaust Fluid in a hands-on exercise with a refractometer

*NOTE: Completion of SIS 2.0, E.T. (Electronic Technician) and Electronics is recommended for this class.*

## TIER 4 FINAL TROUBLESHOOTING

**Class Length: 2 Day | Start Time: 8:00 a.m. | End Time: 4:00 p.m. | Cost: Contact for Pricing**

**Seats: 8 (limit 2 per customer) \*See Cancellation Policy on p.7**

*\*Prerequisite - Introduction to Tier 4 Final Emissions*

### **CLASS DESCRIPTION**

This course is an advanced-level class designed to assist service technicians in troubleshooting Tier 4 final emissions systems and components found on Cat engines.

### **LEARNING OUTCOMES**

Upon completion of this class, participants will be able to:

- Diagnose and repair ECM communication errors
- Locate and utilize the diagnostic tests for the NOx Reduction System
- Locate and utilize the diagnostic tests for the Cat Regeneration System
- Locate and utilize the diagnostic tests for the Selective Catalytic Reduction system
- Diagnose and repair Cat Tier 4 Final engines during a hands-on exercise with a running engine

*NOTE: Completion of SIS 2.0, E.T. (Electronic Technician) and Electronics is recommended and Introduction to Tier 4 Final Emissions is required for this class.*

## INTRODUCTION TO APPLIED FAILURE ANALYSIS

**Class Length: 2 Day | Start Time: 8:00 a.m. | End Time: 4:00 p.m. | Cost: Contact for Pricing**

**Seats: 8 (limit 2 per customer) \*See Cancellation Policy on p.7**

### **CLASS DESCRIPTION**

This course is a foundational level class designed to assist technicians in determining the most probable root cause of fractures.

### **LEARNING OUTCOMES**

Upon completion of this class, participants will be able to:

- Describe basic metallurgy principles
- Identify different types of fractures
- Describe different types of fractures and the loads that cause them
- Identify different types of wear and the environments that create them
- Determine fracture initiation point
- Analyze fractures to separate resultant damages from root causes in a hands-on exercise with failed iron examples

# ADVANCED TROUBLESHOOTING

**Class Length: 5 Day | Start Time: 8:00 a.m. | End Time: 4:00 p.m. | Cost: Contact for Pricing**

**Seats: 8** (limit 2 per customer) \*See Cancellation Policy on p.7

*\*Prerequisite – SIS 2., Cat ET, Electronics Fundamentals, and Intro to Tier 4 Final*

## **CLASS DESCRIPTION**

This course is an advanced-level class that combines multiple systems and methods of troubleshooting. The learner will utilize ET Datalogs, Diagnostic Tests and Service Procedures as well as SIS 2.0 Troubleshooting Guides, Systems Operation and Testing and Adjusting. All while encompassing key diagnostic principles from Electronics Troubleshooting, Tier 4 Final Emissions Systems and the Caterpillar 7 Step Troubleshooting process, in a focused, hands-on diagnostic exercise.

## **LEARNING OUTCOMES**

Upon completion of this class, participants will be able to:

- Describe and utilize the Caterpillar 7 Step Troubleshooting process
- Setup and run ET Datalogs while testing engine systems
- Locate and describe ET Diagnostic Tests and Service Procedures
- Describe and test ECM communication over CAT and CAN Data links
- Describe and test data signals to/from switches, sensors and solenoids
- Describe and test digital and analog data to/from ECM's and properly analyze the data
- Describe and test Pullup Voltage signals from ECM's and utilize data for troubleshooting
- Describe Caterpillar fault codes and the conditions they indicate in circuits
- Utilize all to diagnose and repair faults on a running engine/machine in a controlled lab setting

**Note:** \* A minimum of 4 participants is required to conduct this class.

# GENERAL INFORMATION

## CONTACTS:

For inquiries please contact the Training Department:

☎ 704-731-7367

✉ [JCampbell@carolinacat.com](mailto:JCampbell@carolinacat.com)

## PPE:

Safety Glasses and hearing protection will be provided; Steel-toed footwear must be worn in the shops and lab areas.

## MEALS:

Lunch will be provided daily.

## REGISTRATION:

Contact your Sales Rep or the Training Department to register. A purchase order is required to complete registration.

## CANCELLATION POLICY:

Cancellation more than 30 days prior to the class start date will result in no charge. Cancellation less than 30 days prior to the class start date will result in charge of 50%. Cancellation less than 15 days prior to the class start date will result in full charge. If seat can be filled, no charge will be issued regardless of cancellation date.

# LOCATIONS



## CHARLOTTE

6605 W W.T. Harris Blvd, Suite F  
Charlotte, NC 28269



## GREENSBORO

6215 Swiggett Rd.  
Greensboro, NC 27409



## ASHEVILLE

40 Interstate Blvd.  
Asheville, NC 28806



## CLASS LOCATIONS & DATES

LOCATION	CLASS	START DATE	LENGTH
CHARLOTTE	SIS 2.0	01-28-2025	1 DAY
CHARLOTTE	SIS 2.0	03-03-2025	1 DAY
CHARLOTTE	SIS 2.0	03-06-2025	1 DAY
CHARLOTTE	ET (Electronic Technician)	01-29-2025	1 DAY
CHARLOTTE	ET (Electronic Technician)	03-04-2025	1 DAY
CHARLOTTE	ET (Electronic Technician)	03-07-2025	1 DAY
CHARLOTTE	Electronics	03-10-2025	2 DAY
CHARLOTTE	Electronics	03-31-2025	2 DAY
CHARLOTTE	Electronics	04-03-2025	2 DAY
GREENSBORO	Hydraulics	04-14-2025	2 DAY
GREENSBORO	Hydraulics	04-29-2025	2 DAY
CHARLOTTE	Hydraulics	05-05-2025	2 DAY
CHARLOTTE	Principles of Air Conditioning	06-09-2025	2 DAY
GREENSBORO	Principles of Air Conditioning	06-30-2025	2 DAY
ASHEVILLE	Principles of Air Conditioning	08-07-2025	2 DAY
CHARLOTTE	Intro to Tier 4 Final Emissions	08-14-2025	2 DAY
CHARLOTTE	Intro to Tier 4 Final Emissions	09-22-2025	2 DAY
CHARLOTTE	Intro to Tier 4 Final Emissions	08-25-2025	2 DAY
CHARLOTTE	Tier 4 Final Troubleshooting	09-25-2025	2 DAY
CHARLOTTE	Tier 4 Final Troubleshooting	10-06-2025	2 DAY
CHARLOTTE	Tier 4 Final Troubleshooting	11-10-2025	2 DAY
CHARLOTTE	Intro to Applied Failure Analysis	09-30-2025	2 DAY
CHARLOTTE	Intro to Applied Failure Analysis	11-06-2025	2 DAY
CHARLOTTE	Intro to Applied Failure Analysis	12-11-2025	2 DAY
CHARLOTTE	Advanced Troubleshooting	3-17-2025	5 DAY

## REGISTRATION FORM

To complete the Carolina Cat customer training registration form please scan and or click the QR code.

