NATIONAL CRANE®

TRAINING 2025

Course catalog

Shady Grove – Pennsylvania, USA

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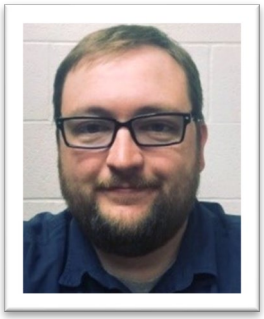

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Global Training Manager
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Training Center Info

NATIONAL CRANE®

Our Capabilities:

Our factory-certified instructors offer operating systems, components, maintenance, and repair training on all our products: Grove, GMK, Manitowoc, National Crane, and Potain.

The Manitowoc Product Support Training Center is an innovative leader in advanced crane industry training. Our onsite and online training curriculum is designed with your profits and your safety in mind. With professional and experienced instructors, our training helps you develop the product knowledge you need to be as productive as possible.

Please contact us if you are interested in Spanish-language instruction.

Our Facilities:

Shady Grove, PA: This site offers multiple state of the art classrooms. A large hands-on simulator lab to include simulators of multiple generations of Grove domestic, GMK All Terrain and National Boom Truck operating systems. A multiple bay training building is also used to accommodate multiple products for troubleshooting and is currently equipped with a GMK4100L-1 dedicated solely for training purposes. A current CCS Potain tower crane is onsite dedicated solely for training purposes.

Available lab workstations:

- Three generations of GMK simulators to include RCL's
- Four generations of Grove domestic RCL simulators
- Four generations of Grove domestic simulators
- GHC simulator to include the RCL
- Multiple National Boom Truck simulators to include RCL's
- EPIC Hydraulic/Electrical Simulators
- Hydraulic and Electrical workstations
- Tower crane erection / dismantling / troubleshooting
- Mobile crane operation
- CCS equipped immersive operator simulator

Manitowoc, WI: This site offers multiple state of the art classrooms. 2 large hands-on simulators labs to include simulators of multiple generations of Manitowoc EPIC, Canbus and Crane Control Systems.

Available lab workstations:

- 4 generations of Lattice Crane simulators, from conventional cranes to CCS generation;
- 8 hydraulic benches with pumps and motors that can simulate the function of the machines.
- Small Crawler simulator for the small Crawler range.
- A CCS cabin simulator with wireless remote
- Also available in Portugal, Dubai and Brazil:
    - Epic Simulators
    - Canbus Version 1 and version 2 Simulator;
    - Crane in the box Simulator
    - CCS Simulator

Contact us for more information about our global training centers located in Wilhelmshaven, Germany; Monterrey, Mexico; Sao Paulo, Brazil and Dubai, UAE.

Travel Arrangement Info

NATIONAL CRANE®

Our Address:

1565 Buchanan Trail East
Shady Grove, PA 17256

Local Airports:

Baltimore/Washington (BWI) International Airport
Washington Dulles (IAD) International Airport
Harrisburg, PA (MDT) International Airport
Hagerstown Regional Airport (HGR)

Rental Car: A rental car will be required for transportation to and from the airport. A rental car will also be required for daily transportation to and from the Manitowoc Training Facility.

If transportation service is required; arrangements must be made prior to the start of class by contacting Toni Pagliaro at Toni.Pagliaro@manitowoc.com. **Please note** all transportation fees incurred will be billed in addition to the cost of the training course you are attending.

Recommended Hotels:

1. Homewood Suites, 1650 Pullman Lane, Hagerstown, MD 21740
   Phone: (301) 665-3816
2. Springhill Suites by Marriott, 17280 Valley Mall, Hagerstown, MD 21740
   Phone: (301) 582-0011
4. Holiday Inn Express, 241 Railway Lane, Hagerstown, MD 21740
   Phone: (301) 745-5644
4. Courtyard by Marriott, 17270 Valley Mall Road, Hagerstown, MD 21740
   Phone: (301) 582-0043

Hotel arrangements, hotel expenses, transportation, breakfast and evening meals are the student's responsibilities.

Manitowoc does provide a catered lunch Monday-Thursday. No lunches are served on Fridays. Coffee, sodas, and bottled water are available daily in the training cafeteria at no cost to the students. Snacks are available anytime in the Training Cafeteria vending machine.

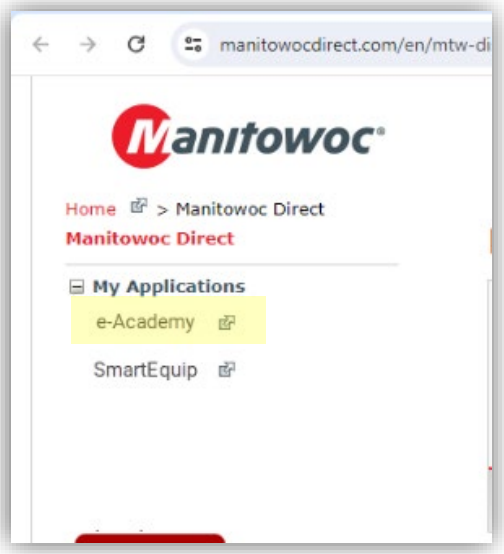
Registration

Request an Account:

To register to attend a training class, students must have a Manitowoc Direct account with access to the Manitowoc e-Academy application. Please visit this website and complete the required fields:

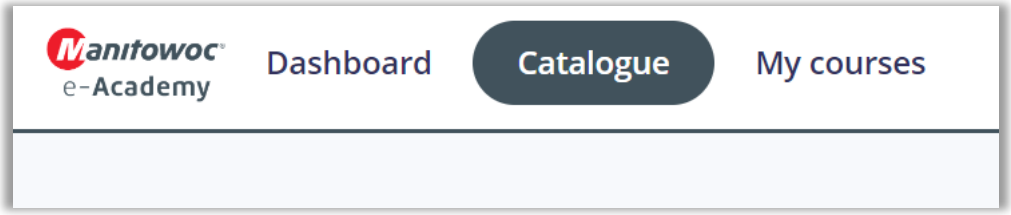
http://www.manitowoccranes.com/en/manitowoc-direct/manitowoc-direct-request-access

Once registered, users should login to Manitowoc Direct, click to expand My Applications, then select e-Academy to enter our website.



Manitowoc e-Academy:

Once logged in, you will see a Catalogue section where you will find our available courses, with upcoming dates listed.



Any registration/payment questions should be directed to Toni Pagliaro by calling 717-593-5918, or by email: toni.pagliaro@manitowoc.com.

Index

NATIONAL CRANE®

Section 1	National Crane Courses *For customers & dealers*	**Page 07 - 10**
Section 2	National Crane Courses *For dealers*	**Page 11 - 12**

National Crane

For customers & dealers

Course	Page	Course name
CST	08	Crane Systems Theory
National Crane 1.3	09	Hardwired Cranes
National Crane 2.3	10	CANBus Cranes

These courses are available to National Crane customers and dealers. To register for a course please use the Manitowoc e-Academy in Manitowoc Direct. Instructions for requesting an account are found on page 5 of this catalog.

National Crane Training Path

Crane System Theory

NATIONAL CRANE®

Aim of training course:

The course is designed to provide a basic understanding of hydraulics, electrical, and pneumatic principles and how they are applied on the Grove and National Crane product.

Program:

The course will consist of classroom time utilizing programs covering the basics of hydraulics, electrical and pneumatics along with their components and how these components operate and interact with each other. Schematics are used to help the students gain a basic understanding of schematic layouts and component symbols used on the different mobile product lines.

Validation of Knowledge:

Daily homework, tasks, and final test at the end of the training course.

Prerequisites

- Must be over 18 years old
- Must bring their PPE

Duration

- 4.5 days
- Monday 7:30 am to Friday 12:00 pm

Number of participants

- 8 participants

Teaching Methods:

Theory and practice in hydraulic, electrical, and pneumatic schematics and systems. Hydraulic and Electrical test benches are incorporated into the course to help give the student a better understanding of the hydraulic and electrical theories learned in the classroom portion of the training

Hardware/Software Provided:

None

Equipment:

- Training room
- Technical Documents
- Simulators
- Hydraulic & Electrical Test Benches

Cost:

- $1,900 per student course fee*

**dealer pricing may vary*

Dates:

- Check the Manitowoc e-Academy in Manitowoc Direct for available course sessions.

National Crane 1.3 Hardwired Cranes

NATIONAL CRANE®

Aim of training course:

This course focuses on National Crane models not equipped with HED operational systems. The course includes a review of boom truck terminology and technologies.

Programs covering the National Crane load charts are used to teach students how load charts are constructed, read, and interpreted. Sessions on National Crane hydraulic and electrical systems will expose the students to schematic layout and symbols, with focus on individual circuits and their function within the overall system. Students will gain knowledge of a fully functioning National Crane and the foundation of proper troubleshooting techniques and test procedures.

Lastly, the course will cover the OMS (Outrigger Monitoring System) used on the National Cranes. Software installation and procedures will give the technician hands on experience with calibration of the OMS system.

Prerequisites

- Must be over 18 years old
- Must bring their PPE
- CST

Duration

- 4.5 days
- Monday 7:30 am to Friday 12:00 pm

Number of participants

- 8 participants

Program:

- Have an understanding of how to read and interpret load charts and explain them to operators.
- Fully understand National hydraulic and electrical symbols, components, and schematics.
- Understand how to troubleshoot system problems using schematics and service manual procedures on recent non-HED National Cranes.
- Perform calibration of the OMS and understand system software.
- Understand operator aids DS160, Mentor, Q-scale, and the Hydraulic Capacity Alert System.

Teaching Methods:

Detailed theoretical classroom instruction and hands-on exercises.

Hardware/Software Provided:

Diagnostic cable(s), OMS service software

Equipment:

- Training room
- Technical Documents
- Simulators
- Crane (if available)

Cost:

- $2,500 per student course fee*

**dealer pricing may vary*

Dates:

- Check the Manitowoc e-Academy in Manitowoc Direct for available course sessions.

National Crane 2.3 CANBus Cranes

NATIONAL CRANE®

Aim of training course:

This course begins with programs covering current National Crane CANBus systems including hydraulic and electrical systems and components. Students gain an understanding of components and systems through the study of the system schematics.

Programs covering software, service and troubleshooting procedures will give the students a working knowledge of the systems and the foundation for proper troubleshooting techniques and test procedures.

The simulator (hands-on) session of the training reinforces classroom studies. Students will review the hydraulic and electrical systems and components utilized on a specific crane model.

Models covered include NC 900H-1, NBT 30H-2, NBT 50, and NBT 60.

Prerequisites

- Must be over 18 years old
- Must bring their PPE
- National Crane 1.3

Duration

- 4.5 days
- Monday 7:30 am to Friday 12:00 pm

Number of participants

- 8 participants

Program:

- Identify hydraulic and electrical components used on National Cranes and explain their function.
- Read and understand National Crane schematics.
- Make system checks using test procedures and understand the indicated readings.
- Troubleshoot system problems by utilizing the schematics and service manual procedures.
- Understand and use software programs for troubleshooting and servicing National Crane products that use the HED systems.

Teaching Methods:

Detailed theoretical classroom instruction and hands-on exercises.

Hardware/Software Provided:

Diagnostic cable(s), service software

Equipment:

- Training room
- Technical Documents
- Simulators
- Crane (if available)

Cost:

- $2,300 per student course fee*

**dealer pricing may vary*

Dates:

- Check the Manitowoc e-Academy in Manitowoc Direct for available course sessions.

National Crane

For dealers

Course	Page	Course name
National Crane 3.3	12	Flashing

This course is available to National Crane dealers. National Crane customers may attend this course with prior approval from their dealer.

National Crane Training Path

National Crane 3.3 Flashing

NATIONAL CRANE®

Aim of training course:

This course will cover FLASHING and CALIBRATION of the following:

Flashing/Loading software for HED-equipped National Cranes from Orchestra Version 3, Version 4, Version 5, Version 6, Version 7. Software Programs used Application Configurator, Downloader, HED Display Programmer, Orchestra Suite programs, and CAN Link Diagnostic Tool.

The purpose of each software for the HED cranes are: loading load charts, flashing new display software, downloading the event recorder and data logger, updating master modules for crane and LMI.

Students will learn the I-flash software to flash Hirschman systems.

Flashing and Eeprom setting using the CST tool and for the SCM module on the NBT55L.

Prerequisites

- Must be over 18 years old
- Must bring their PPE
- National Crane 2.3

Duration

- 4.5 days
- Monday 7:30 am to Friday 12:00 pm

Number of participants

- 6 participants

Program:

- Understand Flashing and Calibration procedures.
- Flash and Calibrate all major components on National Crane products

Teaching Methods:

Detailed theoretical classroom instruction and hands-on exercises.

Hardware/Software Provided:

Diagnostic cable(s), service software

Equipment:

- Training room
- Technical Documents
- Simulators
- Crane (if available)

Cost:

- $2,300 per student course fee*

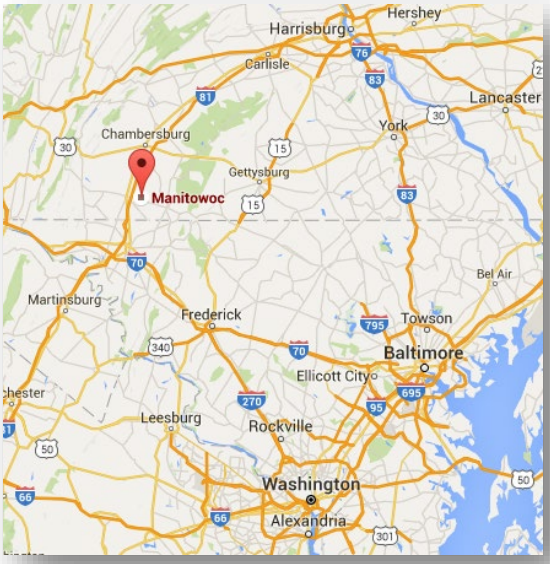
**dealer pricing may vary*

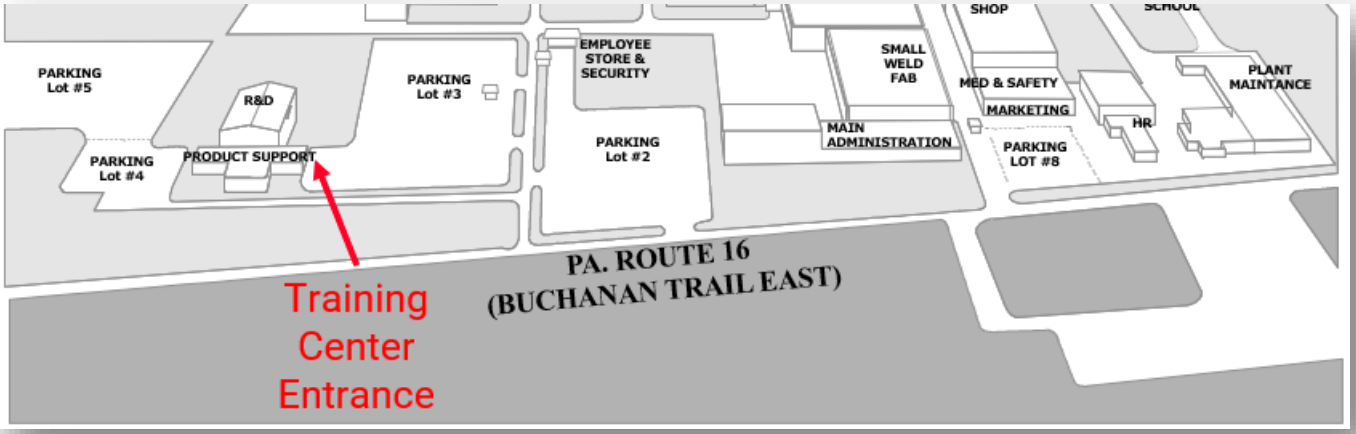
Dates:

- Check the Manitowoc e-Academy in Manitowoc Direct for available course sessions.

Address/Map

Manitowoc Training Center
1565 Buchanan Trail East
Shady Grove, PA 17256
www.manitowoccranes.com





Manitowoc Training Centers

Americas

Shady Grove, Pennsylvania, USA
Manitowoc, Wisconsin, USA
Monterrey, Mexico
Sao Paulo, Brazil

Europe, Middle East, Africa

Wilhelmshaven, Germany
Dubai, United Arab Emirates

Manitowoc Product Support when you need it.

The assurance of the world's most advanced crane service and support to get you back to work fast.

Manitowoc Finance helps you get right to work generating profits for your business.

Financial tools that help you capitalize on opportunity with solutions that fit your needs.

This document is non-contractual. Constant improvement and engineering progress make it necessary that we reserve the right to make specification, equipment, and price changes without notice. Illustrations shown may include optional equipment and accessories and may not include all standard equipment.

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