

TRAINING 2021

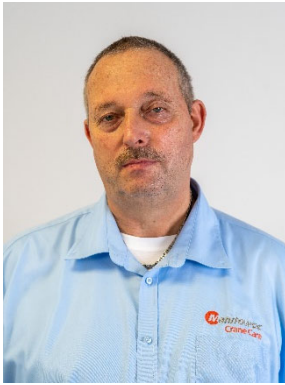
Crane Care Training – Course catalog 2021

Wilhelmshaven - Germany

12/2020



The Training Center Team in Wilhelmshaven



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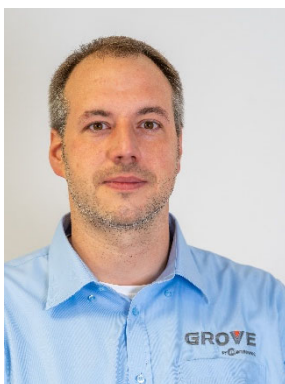
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Overview

Location

- A strategic location at the “Center of Excellence” for All Terrain (GMK) cranes in Wilhelmshaven, Germany.

Languages spoken

- English, German
- Other languages with interpreters.
- Other languages, if available on local subsidiaries.

Find our brochure on our website

<https://www.manitowoc.com/technical-learning-center>

Our Certifications

- Training courses in cooperation with BG Verkehr (German Employers Liability Insurance Association)
- MTU & TÜV certified trainers
- An “in Factory” Training Center
- Development of the operating training courses to conform with ISO9001 requirements

Our profile

- More than 1.000 trainees and visitors from around the globe annually
- Bilingual instructors (English & German)

Our global offer

- 16 modules from 2 days to 1 week covering crane operation, crane technology, crane diagnostics, crane erection, crane maintenance, crane safety, or any other specific course according to your needs.

Our equipment

- Training on various GMK Cranes from the factory available.
- 4 training rooms
- Practical lessons on simulators and cranes

Practical Information

Costs

- Refer to schedule
- Please inform all trainees, that hotel rooms, meals, telephone, bar, weekend trips, taxi etc. are not included in the course fee.

Travel arrangements

- Please inform the Training Center of the trainees' travel arrangements. If they are flying to Bremen or travelling by train, we can arrange to have them collected by taxi (extra cost), if this is requested before arrival.

Registration

- You will find enclosed "registration purchase order" forms which must be filled in and returned to the Training Center for confirmation.
- Trainees must be over 18 years old and must be declared fit to work at heights.
- MANITOWOC denies responsibility for accidents and/or illnesses that might occur during the training courses. We therefore request, that you cover your trainees against any kind of risks and provide them with the necessary insurance certificates and forms.

Clothings

- Most of our training programs involve numerous practical exercises outside. Please inform the trainees that they must bring their **PPE** and weatherproof clothing. We can support safety glasses and helmets to the trainees.

Cancelation

- In case of cancellation, please inform the training Center immediately in order to avoid extra charges.

Laptop PC

- Please refer to page 29

Contact us

Email address TrainingGMK@manitowoc.com

Address

Manitowoc Crane Group Germany GmbH
Industriegelände West,
26389 Wilhelmshaven

Certificates



Operator training
With license from BSK and
German Employers Liability
Insurance Association



MTU Trainer Certificate



Cummins Training Certificate

Course summary

Section 1	Crane Introduction	Page 07 – 10
Section 2	Technician Development Program 2021	Page 11 – 19
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GENERAL TERMS

- Every training course requires a minimum of 3 participants.
- All trainings can be performed on a weekly fee basis.
Example: If you have more than 3 participants per training, we will offer a week or group fee in Wilhelmshaven.
Weekly fee in Wilhelmshaven → 6.050€
- All training can be performed as an "on-site" course in your facilities. Special offer on-site fee consists Weekly fee, without flight, hotel and expenses
→ 6.725€

If you have any questions or special wishes, please do not hesitate to contact us or your nearest Manitowoc Crane Care Office.

Crane introduction

Course	Page	Course name
GMK 0.1	08	GMK Product Presentation / Manager Training incl. Technology
GMK 0.2	09	GMK Operational Aspects CTO & Maintenance
GMK 1.1	10	GMK ECOS & CCS Customer ECC



Aim of training course

This course is designed as an overview to the technology of GMK cranes for managers, sales representatives and newcomers to the crane business.

The student will gain an introduction of applied technologies, covering component identity and functions of carrier and superstructure.



Program

THEORY

- Company presentation
- Product presentation
- Systems, functions and components of the crane
- Options, safety devices

PRACTICE

- Tour of Wilhelmshaven factory

Teaching methods

- Different crane models in factory
- Use of technical documents
- Lectures with audiovisual support

Equipment

- Training room
- Technical documents
- GMK Crane

Validation of knowledge

- Handover of certificate

Prerequisites

- Trainees must be over 18 years old
- Trainees have to bring their PPE

Duration

- 2 days
- From 08:00 am to 16:00 pm

Number of participants

- 6 participants

Dates

- 23.03.2021 – 24.03.2021
- 29.06.2021 – 30.06.2021

Cost

- Training fee 690€

Aim of training course

This course is mainly for crane operators, but also for mechanics / technicians.

After passing this course the student will have a basic knowledge of how to handle a crane in a safe way.

Program

THEORY

- RCL system incl. EN13000 overview, safety devices
- load capacity charts, outrigger loads, wind loading, operators' manuals
- crane terminology & symbols
- lattice swing-away, power tilt jib
- emergency boom recovery

PRACTICE

- Practical tasks on the crane

Teaching methods

- Detailed theory of operation
- Practical tasks on the crane
- Use of specific documents



Equipment

- Training room
- Technical documents
- GMK crane for training

Validation of knowledge

- Handover of certificate

Prerequisites

- Trainees must be over 18 years old
- Trainees have to bring their PPE

Duration

- 5 days
- Monday 12:30 pm to Friday 11:30 am

Number of participants

- 6 participants

Dates

- 15.02.2021 – 19.02.2021
- 31.05.2021 – 04.06.2021
- 27.09.2021 – 01.10.2021

Cost

- Training fee 1.195€

Aim of training course

Introduction to the ECOS (Electronic Crane Operation System), EKS (RCL system) and the CCS (Crane Control System) of the GMK crane.

Special course for Customer Technicians and Service Manager.

Program

ECOS / EKS

- History of crane control & RCL systems
- Sensors and actuators in the hydraulic system
- ESX modules, I/O boards / GVIOM, displays, MMI & level sensor, AMG / AMM, joystick, precision length sensor

CCS

- CCM, SCM, IOS, IOL modules, displays, JogDial, joysticks, level sensor, precision length sensor, RCL sensors

CAN-Bus systems

Introduction of logical troubleshooting and error code diagnostics

Teaching methods

- Pretest
- Detailed theory
- Simulator

Prerequisites

- Trainees must be over 18 years old
- Trainees have to bring their PPE
- Trainees must have a minimum of 6 months experience of crane operation
- ✓ GMK 0.1

Duration

- 5 days
- Monday 12:30 pm to Friday 11:30 am

Number of participants

- 6 participants



Equipment

- Training room
- Technical documents
- Simulator
- GMK crane

Validation of knowledge

- Final test at the end of the training course
- Handover of certificate

Dates

- 15.03.2021 – 19.03.2021
- 04.10.2021 – 08.10.2021
- 15.11.2021 – 19.11.2021

Cost

- Training fee 1.495€

Technician Development 2021

Course	Page	Course name
GMK 2.1	12	GMK Electric & Hydraulic
GMK 3.1	13	GMK ECOS Technology & Diagnostics
GMK 4.1	14	GMK EKS 4 & 5 Technology & Diagnostics
GMK 5.1	15	GMK CCS Technology & Diagnostics
GMK 6.1	16	GMK Engines & Transmissions MB/MTU
GMK 7.1	17	GMK Steer by Wire systems – ECOS SBW & ME SBW
GMK TC	18	GMK Technician Certification
GMK 8.1	19	GMK 6300L & 6400 ECOS



Aim of training course

Designed as a guideline through the technology of GMK cranes. The student will gain a deeper knowledge of the electric and hydraulic system of the crane and get instructions for logic troubleshooting of this systems.

Program

- Overview of the electrical function groups, navigating through the electrical schematics (ELAN and SEE), connections between electric, hydraulic and pneumatic schematics, tasks of troubleshooting in electrical systems.
- Overview of hydraulic components and their schematic symbols. Navigation through the hydraulic schematics. Overview of the carrier hydraulic and pneumatic systems. Overview of the superstructure hydraulic system.



Teaching methods

- 5 days theory and practice in electrical and hydraulic schematics and systems

Equipment

- Training room
- Technical documents
- Simulator
- GMK crane
- Final test at the end of the training course
- Handover of certificate

Prerequisites

- Trainees must be over 18 years old
- Trainees have to bring their PPE

Duration

- 5 days
- Monday 12:30 pm to Friday 11:30 am

Number of participants

- 6 participants

Dates

- 01.02.2021 – 05.02.2021
- 12.04.2021 – 16.04.2021
- 28.06.2021 – 02.07.2021
- 13.09.2021 – 17.09.2021
- 11.10.2021 – 15.10.2021
- 15.11.2021 – 19.11.2021

Cost

- Training fee 1.495€

Aim of training course

This course will show the technology (design and function) and the diagnostic (troubleshooting, adjustment, flashing) of ECOS "Electronic Crane Operating System". This training shows the detailed theory of the operating system and its control application for particular functions and in the practical part the logical troubleshooting with help of the service SW for adjustment, flashing and configuring.

Program

- ESX modules, I/O boards, GVIOM, display, HMI, AMG/AMM, joysticks, level sensor, precision length sensor
- Digital outputs, PWM outputs
- Digital and analog inputs
- CAN-Bus systems
- Sensors and actuators
- Introduction of logical troubleshooting and error code diagnostics
- Adjustment of inputs and outputs with service software
- Flashing / updating of displays and ESX

Teaching methods

- Theoretical training
- Practical tasks on simulator and crane

Prerequisites

- Trainees must be over 18 years old
- Trainees have to bring their PPE
- Laptop with RS232 serial port or USB to serial converter

- Successfully passed

✓ GMK 2.1

Duration

- 5 days – 30 hours
- Monday 12:30 pm to Friday 11:30 am

Number of participants

- 6 participants



Equipment

- Training room
- Technical documents
- PC with service software
- Simulator
- GMK crane

Validation of knowledge

- Final test at the end of the training course
- Handover of certificate

Dates

- 08.02.2021 – 12.02.2021
- 19.04.2021 – 23.04.2021
- 05.07.2021 – 09.07.2021
- 09.08.2021 – 13.09.2021
- 20.09.2021 – 24.09.2021
- 01.11.2021 – 05.11.2021

Cost

- Training fee 1.620€

Aim of training course

This training will show the RCL systems EKS4 and EKS5, the principles and technology.

In this training course the participants will attain the diagnostic level of EKS4 and EKS5.

Program

- History of EKS systems
- Crane physics, RCL technology,
- EKS4 & EKS5 , bus node cards, Tilt I/O boards, pressure transducers, slewing sensors, standard display / graphic display,
- CAN-Bus system for sensors
- Communication to ECOS
- Error codes diagnostics & diagnostic tools
- Addressing of sensors and Tilt I/O boards
- Flashing of graphic display, flashing of EKS5
- Adjustment of RCL system with service software

Teaching methods

- Detailed theoretical training
- Practical tasks on simulator

Prerequisites

- Trainees must be over 18 years old
- Trainees have to bring their PPE
- Laptop with RS232 serial port or USB to serial converter
- Successfully passed
GMK 2.1 & GMK 3.1

Duration

- 5 days
- Monday 12:30 pm to Friday 11:30 am

Number of participants

- 6 participants



Equipment

- Training room
- Technical documents
- PC with service software
- Simulator

Validation of knowledge

- Final test at the end of the training course
- Handover of certificate

Dates

- 15.03.2021 – 19.03.2021
- 12.07.2021 – 16.07.2021
- 16.08.2021 – 20.08.2021
- 08.11.2021 – 12.11.2021

Cost

- Training fee 1.620€

Aim of training course

This course will show the technology (design and function) and the diagnostic (troubleshooting, adjustment, flashing) of CCS "Crane Control System". This training shows the detailed theory of the operating system and its control application for particular functions and in the practical part the logical trouble shooting with the help of service software for calibrations, flashing and configuring.

Program

- CCS modules, display, joysticks, jog dial, HMI, level sensor, precision length sensor
- Digital outputs, PWM outputs
- Digital and analog inputs
- CAN-Bus systems
- Sensors and actuators
- Introduction of logical troubleshooting and error code diagnostics
- Adjustment of inputs and outputs with service software or via CCS display
- Flashing / updating of CCS modules and displays
- Telematics

Teaching methods

- Theoretical training
- Practical tasks on simulator and crane

Prerequisites

- Trainees must be over 18 years old
- Trainees have to bring their PPE
- Laptop
- Successfully passed
GMK 2.1, GMK 3.1 & GMK 4.1

Duration

- 5 days
- Monday 12:30 pm to Friday 11:30 am

Number of participants

- 6 participants



Equipment

- Training room
- Technical documents
- PC with service software
- Simulator
- GMK crane

Validation of knowledge

- Final test at the end of the training course
- Handover of certificate

Dates

- 01.02.2021 – 05.02.2021
- 01.03.2021 – 05.03.2021
- 22.03.2021 – 26.03.2021
- 19.04.2021 – 23.04.2021
- 23.08.2021 – 27.08.2021
- 04.10.2021 – 08.10.2021
- 29.11.2021 – 03.12.2021

Cost

- Training fee 1.620€

Aim of training course

In this course you will attain the technology of MB/MTU engines (classic series and OM47x) including exhaust after treatment systems. The MB gearboxes G240-16 and G280-16 are also explained. The electronic brake system EBS is another part of this course. Finally, the network of all electronic modules (driveline and cabin) will be diagnosed and parameterized with the XENTRY tool.



Program

- Classic engines (OM50x, OM92x, OM460)
- Actual engines (OM47x and OM936)
- Exhaust after treatment systems
- Gearboxes G240-16 and G280-16
- SWR & VIAB
- EBS brake system
- ECU network system / cabin systems
- XENTRY diagnostic tool

Teaching methods

- Detailed theoretical training
- Practical tasks on simulator
- Practical tasks on crane
- XENTRY diagnostic tool

Prerequisites

- Trainees must be over 18 years old
- Trainees have to bring their PPE
- Laptop with XENTRY
- Successfully passed **GMK 2.1 - GMK 5.1**

Duration

- 5 days
- Monday 12:30 pm to Friday 11:30 am

Number of participants

- 6 participants

Equipment

- Training room
- Technical documents
- Simulator
- GMK crane
- XENTRY

Validation of knowledge

- Final test at the end of the training course
- Handover of certificate

Dates

- 15.02.2021 – 19.02.2021
- 12.04.2021 – 16.04.2021
- 31.05.2021 – 04.06.2021
- 19.07.2021 – 23.07.2021
- 30.08.2021 – 03.09.2021
- 18.10.2021 – 22.10.2021

Cost

- Training fee 1.495€

Aim of training course

The "Steer by Wire" course will provide detailed knowledge of this specific system.

Due to legal regulations work and/or repair on SBW systems is only authorized to those, who have successfully completed this course.



Program

- Steer by Wire control units ESX 4 and 5
- Introduction of sensors
- Steer by Wire control units from Mobil Elektronik
- Laptop computer as a service tool with applied Steer by Wire – software
- Flashing of units
- Calibration and adjustment of the ECOS and Mobil Elektronik SBW system
- Logical troubleshooting
- Error codes diagnostics and diagnostics tools



Equipment

- Training room
- Technical documents
- Simulator
- GMK crane

Teaching methods

- Detailed theoretical training
- Practical tasks on simulator
- Practical tasks on crane

Validation of knowledge

- Final test at the end of the training course
- Handover of certificate

Prerequisites

- **Manitowoc/Dealer Technician ONLY**
- Trainees must be over 18 years old
- Trainees have to bring their PPE
- Laptop with RS232 serial port or USB to serial converter
- Successfully passed
GMK 2.1, GMK 3.1, GMK 5.1 & GMK 6.1

Duration

- 5 days
- Monday 12:30 pm to Friday 11:30 am

Number of participants

- 6 participants

Dates

- 22.02.2021 – 26.02.2021
- 12.04.2021 – 16.04.2021
- 03.05.2021 – 07.05.2021
- 26.07.2021 – 30.07.2021
- 25.10.2021 – 29.10.2021
- 13.12.2021 – 17.12.2021

Cost

- Training fee 1.620€

Aim of training course

- Update for the ECOS system.
- Update for the EKS/RCL system.
- Presentation of new features and new equipment.

Program

- Update of ECOS and EKS/RCL systems
- New functions and equipment
- Explanation of MegaDrive
- Explanation of extended suspension control
- Swing away lattice of GMK6300L
- Luffing jib on 6400
- MegaWingLift technology of GMK6400
- SteerByWire update of 6-axle-carriers



Equipment

- Training room
- Technical documents
- Simulator
- GMK crane

Teaching methods

- Detailed theoretical training
- MegaDrive
- Practical tasks on crane

Validation of knowledge

- Final test at the end of the training course
- Handover of certificate

Prerequisites

- **Manitowoc/Dealer Technician ONLY**
- Trainees must be over 18 years old
- Trainees have to bring their PPE
- Laptop
- Successfully passed
GMK 2.1 to GMK 7.1

Duration

- 5 days
- Monday 12:30 pm to Friday 11:30 am

Number of participants

- 6 participants

Dates

- 08.02.2021 – 12.02.2021
- 19.04.2021 – 23.04.2021
- 14.06.2021 – 18.06.2021
- 30.08.2021 – 03.09.2021
- 01.11.2021 – 05.11.2021
- 29.11.2021 – 03.12.2021

Cost

- Training fee 1.620€

Aim of training course

Test of qualifications.

Program

- Entry test
- Handling of documents and service software tools
- Examination about procedures and faults on
 - ECOS
 - EKS
 - CCS
 - SBW ECOS
 - SBW Mobil Elektronik

Teaching methods

- Practical tasks on simulator
- Practical tasks on crane



Equipment

- Training room
- Simulator
- GMK crane

Validation of knowledge

- Certification Card

Prerequisites

- **Manitowoc/Dealer Technician ONLY**
- Trainees must be over 18 years old
- Trainees have to bring their PPE
- Successfully passed **Technician Development Program 2021**

Duration

- 3 days
- 08:00 am to 16:00 pm

Number of participants

- 6 participants

Dates

- 15.02.2021 – 19.02.2021
- 26.04.2021 – 30.04.2021
- 21.06.2021 – 25.06.2021
- 06.09.2021 – 08.09.2021
- 06.12.2021 – 08.12.2021
-

Cost

- Training fee 900€

Technician Development 2021

Minimum requirements to certification

TDP 2021	Manitowoc or Dealer Technician ONLY	Laptop	Type of crane	Rates/ net EURO
GMK 2.1	GMK Electric & Hydraulics	no	all GMK cranes	1.495
GMK 3.1	GMK ECOS Technology & Diagnostics	required	all GMK cranes	1.620
GMK 4.1	GMK CCS Technology & Diagnostics	required	all GMK cranes	1.620
GMK 5.1	GMK EKS 4 + 5 Technology & Diagnostics	required	all GMK cranes	1.620
GMK 6.1	GMK Engines & Transmissions Classic	required	all GMK cranes	1.495
GMK 7.1	GMK Mobil Elektronik and ECOS Steer by Wire	required	all GMK cranes	1.620
GMK 8.1	GMK ECOS GMK6300L and GMK6400	required	all GMK 6 axle cranes	1.620
TC	GMK Technician Certification	required	all GMK cranes	900
Total				11.210

Certified Technician Development 2021

Course	Page	Course name
GMK 6.2	22	Cummins engines, ZF TraXon, Allison
GMK 8.2	23	GMK6400-1 CCS
GMK 9.1	24	GMK CCS crane setup course

CERTIFIED TECHNICIAN DEVELOPMENT 2021

Cummins, ZF and Allison Technology and Diagnostics

Aim of training course

Technology and diagnostic of the QSL 9 Cummins engine in TIER3, TIER4final and EUROMOT5 emission standards by using "Cummins INSITE" software tool.

Introduction of ZF TraXon transmission. During this training, the use of the test tools and error codes will be explained including read out of values, errors and conditions.

Overview of the Allison 4000 family



Program

- Cummins QSL9 engine
- Exhaust after treatment systems
- ZF TraXon gearbox
- Connection of engines and transmission to CCS
- Allison 4000 family

Teaching methods

- Detailed theoretical training
- Practical tasks on crane

Equipment

- Training room
- Technical documents
- GMK crane

Validation of knowledge

- Final test at the end of the training course
- Handover of certificate

Prerequisites

- **Manitowoc/Dealer Technician ONLY**
- Trainees must be over 18 years old
- Trainees have to bring their PPE
- Successfully passed **GMK Certified Technician**

Duration

- 5 days
- Monday 12:30 pm to Friday 11:30 am

Number of participants

- 6 participants

Dates

- 22.02.2021 – 26.02.2021
- 03.05.2021 – 07.05.2021
- 05.07.2021 – 09.07.2021
- 13.09.2021 – 17.09.2021
- 11.10.2021 – 15.10.2021

Cost

- Training fee 1.620€

CERTIFIED TECHNICIAN DEVELOPMENT 2021

New GMK6400-1

Aim of training course

Introduction of the all new GMK6400-1. Introduction of the next generation CCS system including new RCL sensors. Introduction of the new powertrain and MegaDrive control system.

Program

- Next generation CCS and RCL sensors
- Adjustment of crane via CCS screens
- Next generation of Mobil Elektronik SBW
- New functions and equipment
- Explanation of MegaDrive
- MegaWingLift technology of GMK6400-1

Teaching methods

- Detailed theoretical training
- Practical tasks on crane



Equipment

- Training room
- Technical documents
- GMK 6400-1

Validation of knowledge

- Final test at the end of the training course
- Handover of certificate

Prerequisites

- **Manitowoc/Dealer Technician ONLY**
- Trainees must be over 18 years old
- Trainees have to bring their PPE
- Successfully passed **GMK Certified Technician**

Duration

- 5 days
- Monday 09:00 am to Wednesday 16:00 pm

Number of participants

- 6 participants

Dates

- 12.07.2021 – 16.07.2021
- 27.09.2021 – 01.10.2021
- 01.11.2021 – 05.11.2021
- 13.12.2021 – 17.12.2021

Cost

- Training fee 1.620€

CERTIFIED TECHNICIAN DEVELOPMENT 2021

GMK Setup Course

Aim of training course

Give the participant experience in calibration of the hydraulic system and the CCS system

Provide professionalism in troubleshooting

Gives experience the way to update the cranes

Program

- Complete setup of the following systems on a GMK crane
 - Hydraulic setup
 - CCS setup
 - Crane adjustment
 - SBW ECOS or SBW Mobil Elektronik
 - Daimler setup

Teaching methods

- Practical tasks on crane



Equipment

- GMK crane

Validation of knowledge

- Handover of certificate
- This course renews also your expired certification card

Prerequisites

- **Manitowoc/Dealer Technician ONLY**
- Trainees must be over 18 years old
- Trainees have to bring their PPE
- Successfully passed **GMK Technician Certification**
- **Present their own diagnostic equipment**

Duration

- 5 days
- Monday 12: 30 am to Friday 11: 30 pm

Number of participants

- 2 participants

Dates

- 01.03.2021 – 05.03.2021
- 07.06.2021 – 11.06.2021
- 02.08.2021 – 06.08.2021
- 20.09.2021 – 24.09.2021

Cost

- Training fee 1620 €

CERTIFIED TECHNICIAN DEVELOPMENT 2021

Minimum requirement to validity extension of certification *

TDP 2021	Manitowoc or Dealer Technician ONLY	Laptop	Type of crane	Rates/ net EURO
GMK 6.2	Cummins, ZF and Allison Technology and Diagnostics (once after the certification)	required	GMK with ZF + Allison	1495
GMK 8.2	New GMK6400-1	required	GMK6400-1	1495
GMK 9.1	What's new on GMK (on demand)	required	all GMK cranes	FOC
GMK SC	GMK Setup Course *	required	all GMK cranes	1620
GMK 6.2	Cummins, ZF and Allison Technology and Diagnostics	no	GMK30xx GMK with Allison	1495
GMK 8.2	New GMK6400-1	yes	GMK6400-1	1495
GMK 9.1	What's new on GMK (once per year)	yes	all GMK cranes	FOC
STEP	GMK Setup Course	yes	all GMK cranes	1620

Legacy course 2021

Course	Page	Course name
GMK 3.3	27	GMK ECOS EST control system



Aim of training course

This course will show the technology (design and function) and the diagnostic (troubleshooting, adjustment) of ECOS "Electronic Crane Operating System". This training shows the detailed theory of the operating system and its control application for particular functions and in the practical part the logical troubleshooting with the help of the service software for adjustment and configuring



Program

- EST modules, display, joysticks, precision length sensor
- Digital outputs, PWM outputs
- Digital and analog inputs
- CAN-Bus systems
- Sensors and actuators
- Introduction of logical troubleshooting an error code diagnostics
- Adjustment of inputs and outputs with service software

Teaching methods

- Theoretical training
- Practical tasks on simulator

Prerequisites

- Trainees must be over 18 years old
- Trainees have to bring their PPE
- Laptop with RS232 serial port or USB to serial converter
- Successfully passed
 - ✓ GMK 2.1 & 3.1

Duration

- 2 days
- 08:00 am to 16:00 pm

Number of participants

- 6 participants

Equipment

- Training room
- Technical documents
- PC with service software
- Simulator

Validation of knowledge

- Final test at the end of the training course
- Handover of certificate

Dates

- 22.03.2021 – 26.03.2021
- 28.06.2021 – 02.07.2021
- 04.10.2021 – 08.10.2021

Cost

- Training fee 850€

Crane operator training with ECOL Certification 2021

Aim of training course

- Give the participant experience in safe handling of a mobile crane
- Gives the ability to assess the situation on a job site
- Professionalism in the use of lifting gears
- General safety regulations

Program

- Theoretical training about:
 - Physical basics on mobile cranes
 - The use of lifting gears
 - Safe positioning of the machine
 - How to use load charts
 - Wind loads influence
 - Inspection of lifting material
 - Basic technics about mobile cranes

Teaching methods

- Theoretical classroom training
- Practical operating training on crane
- Final test theory
- Final test operation

Prerequisites

- **Operator with minimum 4 years crane operating experience**
- Trainees must be over 21 years old
- Trainees have to bring their PPE
- **Participant must have truck driving license**
- **English or German language speaking**

Duration

- 15 days
- Monday 12: 30 am to Friday 11: 30 pm

Number of participants

- 5 participants



Equipment

- GMK crane

Validation of knowledge

- Handover of certificate after successful passing the tests
- European crane operator license

Dates

- Dates from 4th quarter of 2021

Cost

- Training fee 5.480 €

Administration

Laptop requirements

Laptops required for GMK training courses should be configured as follows

Must be of a "PC" type. Apple/Macintosh/I-book, Linux and Android based computers are not currently compatible with any training material and/or service software.

Windows 10 is acceptable in a 32-bit or 64-bit version, any existing Microsoft Office must be installed in the 32-bit version. For older Windows versions we don't give any support.

The PC and/or username must have only Latin letters and/or numbers (ASCII codes 48-57, 65-90, 97-172). **No special characters like ä, ö, ü, ß, é, è etc. are allowed.** For PC's outside Latin characters' countries there could be some problems occur with the software tools. Here it is recommended to install the Windows as an English version and add after your local version.

It is also recommended that the laptop has the following specifications

- ✓ 1366 x 768 or higher display resolution
- ✓ x86 compatible processor
- ✓ minimum of 4GB RAM
- ✓ minimum of 150GB free HDD space
- ✓ 2 USB port type A or adapter to type A
- ✓ Integrated RS232 port or USB to RS232 adapter, configured to COM1

In addition to Windows 10, the laptop should have the following software installed

- current Adobe Reader,
- current Adobe Flash Player,
- current Microsoft Access or Microsoft AccessDatabaseEngine, if MS Office is installed, it must be the **32bit** version
- 7-zip or other ZIP program,
- Media player configured to play the following types of video files and audio files
wmv, .avi, .mpeg, .mp3, .flv, .swf, etc., and Quicktime

The user should also have full "**Administrative rights**" to add/install various software programs and software drivers used during and after training, especially the folders **c\Temp** and **c\Manitowoc** must be accessible without any restrictions.

It is highly recommended that most of Grove/GMK service programs utilize a DB-9 serial port connection to the crane configured as "**COM1**". If the laptop does not have a DB-9 serial port the recommended alternative is a PCMCIA Adapter Serial card (DB-9), configured as **COM1**. This is preferred over a USB to serial adapter. Any serial adapters may work but are not 100% reliable to work with all Grove/GMK service programs. For a better satisfaction, we recommend serial adapter with FTDI chip set. If USB serial adapters are used, the laptop must have a minimum of two (2) standard USB A ports available or an adapter to USB type A.

Manitowoc Crane Care Training is not responsible for providing or configuring any non-Manitowoc software and/or serial adapters of any type necessary for use with any service programs.

Administration

Address & Location map

MANITOWOC CRANE GROUP Germany GmbH

Training Center

Industriegelände West

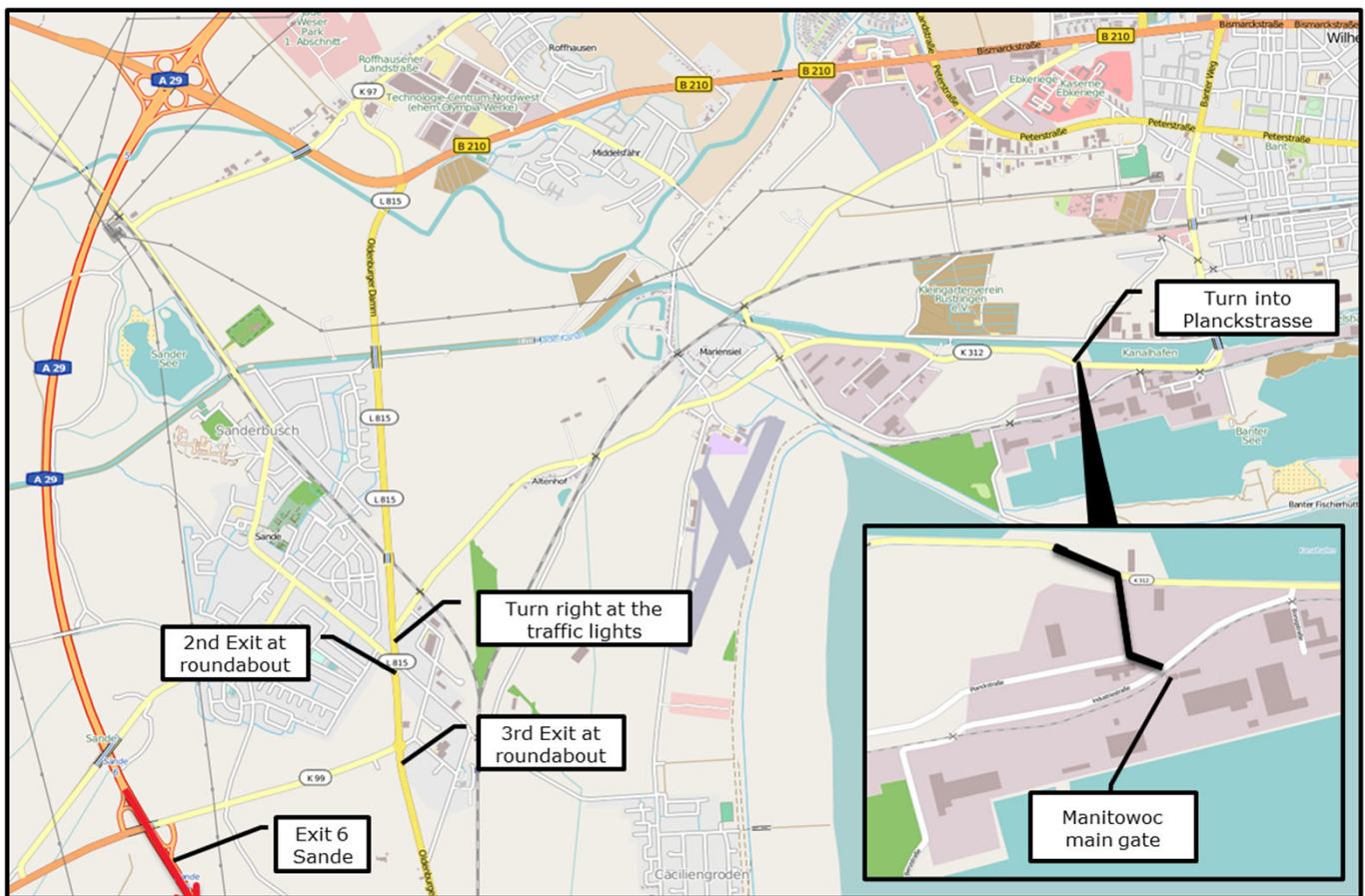
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GPS 53°30'34"N 8°4'56"E

Phone +49 (0) 4421 294 4164

Fax +49 (0) 4421 294 4307

E-mail TrainingGMK@manitowoc.com



Administration

Registration – Purchase order

return to
MANITOWOC CRANE GROUP Germany GmbH
GMK Training Center
Industriegelände West
26389 Wilhelmshaven
Email TrainingGMK@manitowoc.com / FAX +49 (0)4421 294 4307

Date of registration _____

Course name _____

Course date _____

Course location _____

Costs _____

Company _____

Contact _____

Address _____

Contact phone _____

Contact email _____

Purchase number _____

Participants 1. _____

2. _____

3. _____

4. _____

Hotel booking no yes

Arrival date _____ leaving date _____

Flight details Flight No. _____ Arrival _____

Transfer needed no yes Airport transfer daily from / to hotel

Remarks _____

PPE is mandatory Safety shoes, proper outfit (no shorts), gloves, helmet and goggles.

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