



## Mikron Service

### Business Support

To guarantee continuous use of your investment

### Customer Training



## Electro-mechanical maintenance Multistep™

*Profit from our experience*



### Who should come ?

This course is of interest to everyone involved in performing maintenance and keeping up the Multistep™ machine:

- Electrical maintenance personnel
- Mechanical maintenance personnel
- Maintenance managers
- Advanced setters

#### Objectives:

- To acquire knowledge for an efficient electrical and mechanical maintenance of the linear transfer system Multistep™

#### Contents:

- Indramat control MTC200 / Machine concept / Structure of the control
- User surface: description of the menus
- Operating the machine in manual and MDI mode
- Electrical and mechanical components of the machine
- Handling of data
- System of coordinates / Geometrical alignment of the machining and loading module
- Linear and rotary measuring systems
- Setting the pallette-change
- Setting the tool-change
- CNC-Control and drive parameters
- Variables / Events / Q-functions
- Monitoring In- and Outputs
- Interbus system
- Automatic calibration of the machining module
- Troubleshooting / Diagnostics and removal of problems
- Modem
- Data backup
- Employee and environmental safety

#### Important remark:

- In Mikron Rottweil a training machine and 4 PCs with the CNC-Control in offline are available.

#### Type of Training:

- Basic Mikron Training

#### Languages:

- English
- German
- other languages upon request

#### Duration:

- 4.5 days

#### Location:

- Mikron Rottweil, on a training machine or
- at Customer's facility

#### Prerequisites:

- none

#### Number of participants:

- maximum 6 people from the same company

#### In the price included:

- Customer specific training setup
- Training documentation
- Lunch
- Refreshments

#### Training Certificate:

- each participant will receive a Training Certificate

#### Contact and registration:

*Local Serviceline*

#### Mikron GmbH Rottweil

Berner Feld 71

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[service.mro@mikron.com](mailto:service.mro@mikron.com)

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#### Training Manager

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## Automatic calibration machining module Multistep™

*Profit from our experience*



### Who should come ?

This course is of interest to everyone running, setting up and keeping up the Multistep™ machine:

- Setters
- Operators
- Maintenance personnel
- CNC programmers

#### Objectives:

- To acquire knowledge for the correct use of the automatic calibration procedures with the Renishaw probe for the machining module

#### Contents:

- System of coordinates / Geometrical alignment of the machining module
- Description of the objectives of the automatic calibration
- Setting up the calibration procedure
- Running the automatic calibration programs
- Evaluation of the calibration results
- Troubleshooting and removal of the causes in case of errors
- Employee and environmental safety

#### Important remark:

- In Mikron Rottweil the training will be performed on a training machine.  
For groups of up to 4 participants, each trainee will have the use of a PC with the CNC-Control Software in offline.

#### Type of Training:

- Advanced Mikron Training

#### Languages:

- English
- German
- other languages upon request

#### Duration:

- 1 day

#### Location:

- Mikron Rottweil, on a training machine or
- at Customer's facility

#### Prerequisites:

- participation to one of the basic Mikron Trainings

#### Number of participants:

- maximum 4 people from the same company

#### In the price included:

- Customer specific training setup
- Training documentation
- Lunch
- Refreshments

#### Training Certificate:

- each participant will receive a Training Certificate

#### Contact and registration:

*Local Serviceline*

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## CNC programming Multistep™

*Profit from our experience*



### Who should come ?

This course is of interest to everyone programming new parts or editing existing CNC programs for Multistep™ :

- CNC programmers
- Setters
- Production managers
- Project managers

#### Objectives:

- To acquire knowledge for the CNC-programming of the linear transfer system Multistep™

#### Contents:

- Indramat control MTC200 / Machine concept / Structure of the control
- User surface: description of the menus
- Handling of data
- System of coordinates / Geometrical alignment of the machining and loading module
- Definition of zero point / Machine zero / Basic origins / Machining origin
- CNC data handling / structure of CNC program / editing existing CNC programs
- Cycles / Handling of Cycles
- Setting up a CNC program for the machining module
- Tool data management / Tool list / Active tool list / Setup list
- Use of variables and events
- Flow of parts in the linear transfer system
- Description of the Customer's CNC program
- Employee and environmental safety

#### Important remark:

- In Mikron Rottweil the training will be performed on a training machine. For groups of up to 4 participants, each trainee will have the use of a PC with the CNC-Control Software in offline.

#### Type of Training:

- Basic Mikron Training

#### Languages:

- English
- German
- other languages upon request

#### Duration:

- 4.5 days

#### Location:

- Mikron Rottweil, on a training machine or
- at Customer's facility

#### Prerequisites:

- none

#### Number of participants:

- maximum 6 people from the same company

#### In the price included:

- Customer specific training setup
- Training documentation
- Lunch
- Refreshments

#### Training Certificate:

- each participant will receive a Training Certificate

#### Contact and registration:

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## Setter/Operator Multistep™

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### Who should come ?

This course is of interest to everyone running and setting up the Multistep™ machine:

- Setters / Operators
- Production managers
- Project managers
- CNC programmers

#### Objectives:

- To acquire knowledge for the efficient use of the machining system

#### Contents:

- Indramat control MTC200 / Machine concept / Structure of the control
- User surface: description of the menus
- System of coordinates / Geometrical alignment of the machining module
- Operating the machine in manual, MDI and automatic
- Operations of the tool change unit / Simulation of emergency during tool-changing
- Operating the pallette changer / Simulation of emergency during pallette-change / Q-functions for pallette-changing
- Production setup and changeover of the machine
- Flow of parts in the linear transfer system
- CNC data handling / structure of CNC program / editing existing CNC programs
- Tool data management / Tool list / Active tool list / Setup list / Editing tool data
- Variables / Events / Waypoints / Software limits
- Diagnostics
- Maintenance activities
- Employee and environmental safety

#### Important remark:

- In Mikron Rottweil a training machine and 4 PCs with the CNC-Control in offline are available.

#### Type of Training:

- Basic Mikron Training

#### Languages:

- English
- German
- other languages upon request

#### Duration:

- 4.5 days

#### Location:

- Mikron Rottweil, on a training machine or
- at Customer's facility

#### Prerequisites:

- none

#### Number of participants:

- maximum 6 people from the same company

#### In the price included:

- Customer specific training setup
- Training documentation
- Lunch
- Refreshments

#### Training Certificate:

- each participant will receive a Training Certificate

#### Contact and registration:

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