TRAINING

Maintenance training for robot systems of the CS9 generation

Goal

During the training course, participants learn all about the structure, electrical and mechanical components of the robots, necessary maintenance work and repairs that they are able to carry out themselves. A further component of the training course is reading out of the event log and structured, independent troubleshooting.

Participants

Electricians, electronics engineers, mechatronics engineers, technicians and engineers

Please Note!

The practical ability to safely operate Stäubli robots is a prerequisite. As preparation for this course, it is therefore strongly recommended to attend the basic training module in advance.

Benefits for the participant

- More efficient cooperation between trained plant personnel and Stäubli service engineers during maintenance and service calls on site. This significantly reduces downtime and saves cost.
- The ability to identify potential opportunities to optimize the performance of the line. This not only reduces cycle times but also enhances the productivity level of the system.
- Participants learns how to independently carry out prompt and competent troubleshooting on the robot system.
- Unscheduled downtime can be reduced or even eliminated through preventive maintenance procedures or a competent assessment of the urgency of a repair.
- Reaction times, should a malfunction occur, are reduced by the prompt deployment of trained maintenance personnel.
- Trained personnel are better able to successfully implement advice and recommendations from the free Stäubli hotline.

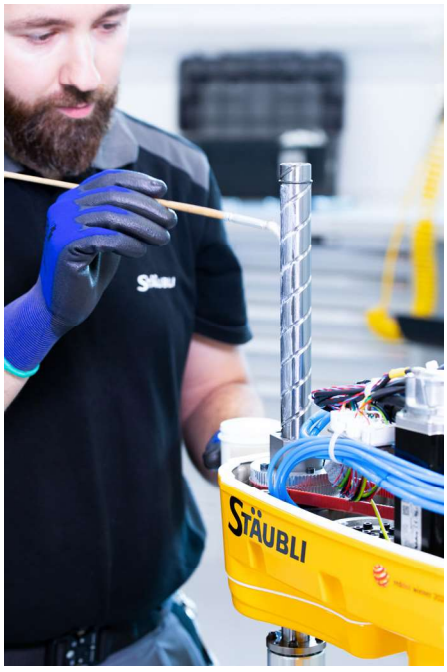
Prerequisites

Basic knowledge of robot operation (CS9), as well as professional qualification regarding electrical safety.

Recommendation

Participation at the basic training CS9

Experience with the operation and maintenance of computer-controlled industrial machines.



TX2 / TS2 CS9

Content

- General safety instructions
- Commissioning of the robot
- Safety settings related to carrying out
- maintenance and repair work
- Overview of the robot system
- Practical exercises for troubleshooting
- Technical database:
  - Spare parts catalogue
  - documentation (manuals, FSP)

Diagnosis

- Booting the CS9 control unit
- Optical displays (LEDs, displays on the controller and on the arm)
- Error logger
- System messages
- Practical examples of structured troubleshooting according to Stäubli „Breakdown Diagram“

CS9 controller

- Structure of the control system
- Power supply
- Electronic components: explanation, synoptics and troubleshooting
- Calibration and testing of the reference-points
- Explanation of the existing inputs and-outputs
- Creating a backup of the system data- and the safety configuration
- Arm and control unit replacement
- Control of the holding brakes
- Replacing components

Mechanics TX2

- Description of the components
- Presentation of the JCS gearbox variants
- TX2 wrist – structure and function
- Toothed belt check TX2-40/TX2-60
- DSI 9 board - function
- Wiring harness - protection and testing
- Component replacement:
  - Motor
  - BEM (brake encoder module)
  - Wrist
  - Toothed belt
  - DSI 9 board
- Preventive maintenance up to level 2

Mechanics TS2

- Description of the components
- Presentation of the JCS gearbox variants
- Available equipment
- Toothed belt check
- DSI9 board - function
- Wiring harness – visual check
- Component exchange
  - engine
  - timing belt
  - DSI 9 board
- Preventive maintenance up to level 2
- Quill maintenance

Duration: 4.5 days
Course number: 9.2.1
Location: Bayreuth, Asten