

FX-3/KE 3000 Series Training Courses



JUKISmart Solutions



Service and Calibrations Course

Who Should Attend:

Personnel responsible for maintenance and operations of the FX3 and KE3000 Series machines.

Length:

4 days

Prerequisites:

Successful completion of the FX3 and KE3000 Series Programming and Operations Course. Knowledge of basic SMT concepts and components.

Course Description:

This course is designed to provide maintenance technicians with maintenance, calibrations, troubleshooting and repair skills. It includes classroom and hands on maintenance and troubleshooting of machines.

Course Agenda:

1. Course Agenda
2. Introduction to Juki Automation Systems Service
 - 2.1. Help Numbers
 - 2.2. Ordering Parts
3. Machine Documentation
 - 3.1. Maintenance Manual(s)
 - 3.2. Parts List
 - 3.3. Technical Bulletins
4. Machine Overview
 - 4.1. XY Axis
 - 4.1.1. Super H-Drive
 - 4.2. Assembly Heads
 - 4.3. Conveyor System
 - 4.4. Feeders
 - 4.5. LNC60 Align Basics
 - 4.5.1. How It Works
 - 4.6. Positioning Unit Components
 - 4.7. Control Unit – Board Functions and Layout
 - 4.8. Power Supply Layout
5. Re-Installation/Setup
 - 5.1. Re-leveling

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6. Software Overview (Menus)

6.1. User Level Access and Passwords

6.2. Brief overview to ensure familiarity with newer functions. Note that this is NOT an operations course.

7. Setup Data

7.1. Machine Setup

7.1.1. Nozzle Allocation

7.1.2. Head Vacuum with No Nozzle

7.1.3. Device Enable

7.1.4. Bad Mark Threshold Adjustment

7.1.5. I/O Manual Control

7.1.6. Head

7.1.7. Conveyor

7.1.8. Vision

7.1.9. Others

7.2. Warm Up

8. Programming Overview – again note that this will be brief as students are expected to already be familiar with machine programming.

8.1. Go over some program troubleshooting tips in the following areas

8.1.1. PWB Data (Layout Offsets, Matrix Type PWBs, BOC Mark Teaching)

8.1.2. Placement Data (Rotation, Local BOC Marks, Optimized Order View)

8.1.3. Component Data (Nozzle Selection, Laser Height, Laser Algorithm, Expansion Information, Vision Data for KE3020 only: BGA data, Light Control, Vision Inspection Tool)

8.1.4. Pick Data (Alternate Feeders, Z Height, List View)

9. Production Overview

9.1. Parts Number Setup

9.2. Single Cycle

9.3. Dry Run

9.4. Trial Run

9.5. Management Information

10. AC Servo Drivers

10.1. XY drivers

10.2. Z/Theta drivers

11. Routine Maintenance

11.1. Lower Shaft Removal, Cleaning and Lubrication

11.2. Nozzle Cleaning

11.3. Lasers

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- 11.3.1. Checking the Lasers Using Manual Control
- 11.3.2. Cleaning the Lasers
- 11.4. Air Path
 - 11.4.1. Watching for and Removing Water Build Up
- 11.5. Replacing vacuum filters
- 11.6. Servicing vacuum pump
- 11.7. Lubrication points and frequency
- 12. MS Parameters
 - 12.1. Overview (What They Are, How to Get to Them, Precautions)
 - 12.2. Jigs Used
 - 12.3. Demonstration of all MS Parameters Calibrations
 - 12.4. Hands on Practice of MS Parameters Calibrations
- 13. Self-Calibrations
 - 13.1. Differences between these and MS Parameters
 - 13.2. Vacuum Sensor Calibration
 - 13.3. Frequency
- 14. Software Installation/Upgrading (MMI/F, VCS)
 - 14.1. Where Production Files Are Stored
 - 14.2. Backing Up Important Data (*.MDB and *.DAT files)
- 15. Troubleshooting
 - 15.1. Saving special log files
 - 15.2. Using the Runtime Log
 - 15.3. Copying/printing/saving errors on the screen
- 16. Questions and Answers Session

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