RS-1 Series
Training Courses

JUKI Smart Solutions

Service and Calibrations Course

Who Should Attend:

Personnel responsible for maintenance and operations of the RS1 Series machines.

Length:

4 days

Prerequisites:

Successful completion of the RS1 Series Programming and Operations Course. Knowledge of basic SMT concepts and components.

Course Description:

This course is designed to provide maintenance technicians with maintenance, calibration, 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/Z/ZA/Theta Axis
     - 4.1.1. Super H-Drive
   - 4.2. Assembly Heads
   - 4.3. Conveyor System
   - 4.4. Feeders
   - 4.5. LNC120-8 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

RS-1 Series
Training Courses

JUKI Smart Solutions

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 and Programing 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. ZA/Z/Theta drivers
11. Routine Maintenance
   11.1. Lower Shaft Removal, Cleaning and Lubrication

RS-1 Series
Training Courses

JUKI Smart Solutions

- 11.2. Nozzle Cleaning
- 11.3. Lasers
  - 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 or Ejector
- 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

Juki Americas Headquarters
5151 McCrimmon Parkway, Suite 200
Morrisville, NC 27560
Phone: 919-460-0111
Fax: 919-469-0480