

Okuma

Electrical Maintenance for Lathes and Machining Centers with the OSP U100 series control.

Course Code : EL 801

Prerequisite : none

Credits : 0

Course length : 4.5 days

Class Size : 6 persons

COURSE OBJECTIVES - Upon completion, the individual will be proficient in all basic skills necessary to troubleshoot an electrical side problem on any Okuma CNC machine tool with the OSP U100 control.

The course is designed to provide the information needed to diagnose any machine problem. The individual will be capable of diagnosing a problem and be able to communicate via the phone to distributor or Okuma service representatives if the need arises for further assistance.

Course emphasis is a blend of classroom instructional theory and “hands on” time spent on the machine tool.

Comprehension of the topics is measured by both actual demonstration and an exam.

COURSE REGISTRATION – please contact *Von Pickett* at (803-981-7000) the Institute for Manufacturing Productivity to obtain program availability dates, or check our website <http://imp.okuma.com>

Electrical Maintenance for Okuma Lathes and Machining Centers with the OSP U10/100 Series Control.

Course Outline

MONDAY	Section
1. Instructor and Class Introductions	
2. Terminology	
3. Safety	One
4. Documentation	Two
5. Machine Definition	Three
A) Introduction to Machine Tools	
B) Introduction to NC	
C) Introduction to CNC	
6. Machine Operation	Four
A) CNC Operation Panel and Functions	
B) Machine Operation Panel and Functions	
7. Schematics	
A) Symbols	Nine
B) Machining Center	Ten
C) Lathe	Eleven
TUESDAY	
1. Schematics (continued)	
2. U100 Construction	Five
A) U100 PCB's	
B) Fieldnet Units	
C) Motion Control System (MCS)	
D) J-Type Encoder	

WEDNESDAY

- 2. Diagnostics Six
 - A) Numbering Systems
 - B) System Start-up Sequence
 - C) Access Address Table
 - D) Alarms
 - E) ATC/APC Operation
 - F) PLC Monitor function
 - G) MacMan

THURSDAY

- 1. Software Seven
 - A) Backing up Parameters
 - B) Reloading Parameters
 - C) Reloading System Software

- 2. Parameters Eight

FRIDAY

- 1. Hands-On
- 2. Questions and answers

The following terms or acronyms pertain to some of the terminology used at Okuma for the OSP U10 control. Some of the terminology is used throughout the industry while some pertain only to Okuma machines.

ACPB	Animation Control Processor Board
DC4M	DRAM Card, 4Mbyte
DC8M	DRAM Card, 8Mbyte
DC16M	DRAM Card, 16Mbyte
FC8M	Flash Memory Card, 8Mbyte
FC12M	Flash Memory Card, 12Mbyte
FCPB	Fieldnet Control Processor Board
FPU	Floating Processor Unit
ICB	Inverter Control Board (MIV)
IPCB	Inverter and Power Supply Control Board (MIP)
IPPB	Inverter and Power Supply Power Board (MIP)
IVPB	Inverter Power Board (MIV)
MCS	Motion Control System
MIP	Motion Control Inverter and Power Supply
MIV	Motion Control Inverter Unit
Mother Board C	Compact Rack
	D3 Docking 3 Rack
	D6 Docking 6 Rack
MPR	Motion Control Power Supply (Resistor regeneration type)
MPS	Motion Control Power Supply (Source regeneration type)
PRB	Power Supply (Resistor regeneration) control board
PSPB	Power Supply (Source regeneration) control board
SC0.5M	SRAM Card .5Mbyte
SC1M	SRAM Card 1Mbyte
SC2M	SRAM Card 2Mbyte
SC6M	SRAM Card 6Mbyte
UCMB	Universal Compact Main Board