

Okuma

Electrical Maintenance for Lathes and Machining Centers with the OSP 7000 / 700 series control.

Course Code : EL 701

Prerequisite : none

Credits : 3.2 CEU

Course length : 4.5 days

Class Size : 6 persons

COURSE OBJECTIVES - Upon completion, the individual will be proficient in all basic and skills necessary to troubleshoot an electrical side problem on any Okuma CNC machine tool with the OSP 7000 / 700 control.

The course is designed to provide the information needed to diagnose any machine problem and properly repairing the machine by means of utilizing Okuma machine documentation (i.e. manuals) which also includes class manuals. The individual will be capable of diagnosing a problem using an oscilloscope, multi meter, etc. if needed and be able to communicate via the phone to 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>

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Course Outline

MONDAY	SECTION
1. Instructor and Class Introductions	
2. Okuma History	
3. Terminology	
4. Safety	One
5. Okuma Documentation	Two
6. Machine Definition	Three
A) Introduction to Machine Tools	
B) Introduction to NC	
C) Introduction to CNC	
7. Machine Operation	Four
A) CNC Operation Panel and Functions	
B) Machine Operation Panel and Functions	
C) ATC recovery	
8. Schematics	Nine
A) Recognizing Okuma Symbols	
B) How to Read Okuma Schematics	
C) Troubleshooting	

TUESDAY

SECTION

1. Schematics (continued) Nine

2. OSP 7000 / 700 Construction Five
 - A) Power Supplies
 - B) Printed Circuit Board Functions
 - C) Servo Systems
 - a) Axis Drives
 - b) Spindle Drives
 - D) Feedback Systems
 - a) Absolute Position Encoders
 - b) Inductosyn
 - c) VAC Resolver
 - d) Pulse Generators

WEDNESDAY

1. Construction (continued) Five

2. Parameters Seven
 - A) Setting Stroke End Limits
 - B) Setting Zero Offsets

THURSDAY

1. Diagnostics Six
 - A) Using Actual Position Pages
 - B) Using Block Data Pages
 - C) Using Check Data Pages
 - D) Alarms
 - E) MACMAN

FRIDAY

1. Software Installation (Hands-On) Eight
 - A) Data Management Card
 - B) Software Transfer Procedures
 - a) Initializing (erasing) a diskette
 - b) Saving programs
 - c) Saving **A . TOP** files
 - d) Reloading programs
 - e) Reloading **A . TOP** files