OKUMA

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

Course Code : EL 901
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 skills necessary to troubleshoot an electrical side problem on any Okuma CNC machine tool with the OSP THINC 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 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 actual demonstration. Distributors will be required to take a written test.

COURSE REGISTRATION **- please contact Von Robertson 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.	Safety	One
3.	Okuma Documentation	Two
4.	Machine Definition A) Introduction to CNC machines	Three
5.	Machine Operation A) CNC Operation Panel and Functions. B) Machine operation panel and Functions.	Four
6.	Schematics A) Symbols B) How to read Okuma Prints	Nine

TUESDAY

1.	Construction A) Power Supplies B) Printed Circuit Board Functions C) Device Net D) Motion Control System a) Axis Drives b) Spindle Drives c) Power Supplies d) J type Encoder	Five

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(Continued)

WEDNESDAY — SECTION

1. Construction (Continued)
    - E) Replacing Absolute Position Encoders
        - a) Machining Center
        - b) Lathe

2. Diagnostics — Six
    - A) Numbering System
    - B) System Start Up
    - C) Alarm Format

THURSDAY

1. Diagnostics (Continued)
    - D) I/O Monitor
    - E) MAC MAN
    - F) PLC Ladder

2. Parameters — Seven
    - A) Machining Center
    - B) Lathe

FRIDAY

1. Software — Eight